COMPUTERWORLD

GARY TAXALI

Already Gone

Think your top IT talent is staying put? Think again. Half your IT middle managers may be headed out the door when the economy improves. Some have already checked out, mentally. Here's what you can do about it. **Page 47**

HP Plans Thin-Client System With PC Blades

Sees new technology as PC replacement that could cut companies' desktop TCO in half

BY PATRICK THIBODEAU

Hewlett-Packard Co. last week detailed a plan to market thin-client systems based on PC blades, which it claims have the potential to replace up to half of the existing desktops in midsize and larger companies.

The PC blade system, called the HP Consolidated Client Infrastructure, will be available in March. It consists of a thin client connected to a dedicated rack-mounted blade in the data center. The blade will run Microsoft Corp.'s Windows XP and use Transmeta Corp.'s Efficeon processor.

HP claims its PC blades can halve the total cost of ownership for desktops, which it puts at about $8,000 per PC over four years.

One company eyeing PC blades to reduce desktop costs is Wells' Dairy Inc., maker of Blue Bunny brand ice cream products in La Mars, Iowa.

The company already has some thin clients attached to servers, but Kim Norby, vice president of IT, said he's considering PC blades to cut desktop costs. "We're certainly very driven to continue to do more with what we have and be able to support

HP Blades, page 60

> **ONLINE:** Sun makes an AMD-based blade server announcement:
> **◑ QuickLink 43285**
> **www.computerworld.com**

Feds Say IT Security Lacking

Regulation likely if private sector doesn't protect infrastructure

BY DAN VERTON
SANTA CLARA, CALIF.

Secretary of Homeland Security Tom Ridge last week warned the IT industry that the nation's critical infrastructure presents "an attractive target for terrorists" — a target that his top cybersecurity advisers said will be protected by government regulation if the private sector fails to bolster security.

Ridge says cybersecurity depends on industry efforts.

Speaking to more than 300 IT executives at the first National Cyber Security Summit here, Ridge said terrorist groups "know, as do we, that a few lines of code could ultimately wreak as much havoc as a handful of bombs."

Ridge encouraged the IT industry and the private businesses that own and operate more than 85% of the nation's critical infrastructures to lead the nation's cybersecurity efforts. "The continued success of protecting our cyberspace depends on the investment and commitment of each of you and the businesses you represent," he said.

Cybersecurity, page 16

> **MORE ONLINE**
> **Reporter's notebook:** A top DHS official speaks with *Computerworld.*
> **QuickLink 43317**
> **Cybersecurity task forces** deliver action plans to the DHS:
> **◑ QuickLink 43294**
> **www.computerworld.com**

Offshore Support Questioned

Vendors must balance user satisfaction with desire to curb costs

BY BOB BREWIN

Offshore technical support services have become a fact of life for many technology vendors and their customers. But both vendors and users last week said support operations have to balance their desire to reduce labor costs with customer satisfaction considerations.

The issue came to the forefront late last month, when Dell Inc. said it was returning phone-based technical support for its corporate PCs to the U.S. because of complaints from some users about the quality of service they received from a call cen-

Support, page 16

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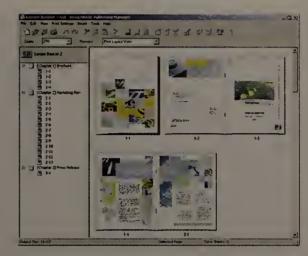
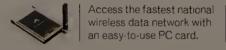# Not color as usual.

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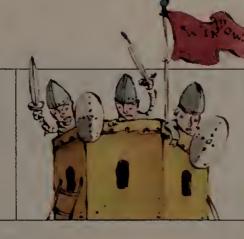
Moving Data to the Mountain

In the Technology section: Once a limestone mine, Iron Mountain's underground facility was designed to protect corporate data from a nuclear blast. Today, its electronic data center helps clients comply with a spate of new regulations. **Page 34**

Windows Server 2003: Raising Shields

Also in the Technology section: Six months after its release, Windows Server 2003's early adopters give a thumbs up to new security features, but the overall security report card is mixed. **Page 29**

ONLINE

WWW.COMPUTERWORLD.COM

The Pathway to a Service-Oriented Architecture
DEVELOPMENT: Four steps to realizing business benefits from Web services. **○ QuickLink 43264**

The Benefits and Risks of Mobility
MOBILE/WIRELESS: A checklist for meeting the security challenges posed by handhelds and other mobile devices. **○ QuickLink 42963**

Keeping Vendors on Their Toes
STORAGE: Maintaining multiple suppliers is a good way to keep vendors on their toes and prices competitive, but what are the technical issues to be aware of? **○ QuickLink 43243**

Security: An Executive Concern
SECURITY: Information security isn't just an IT matter; it's also an organizational issue to be reckoned with at the executive level, says John De Santis, CEO of Sygate Technologies. He calls for new measures that gauge network security. **○ QuickLink 43210**

Storage Gains Stature
STORAGE: The role of storage is evolving, especially in the wake of 9/11 and recent financial scandals, says Marc Farley, president of Building Storage. **○ QuickLink 43238**

Driving Successful CRM Adoption
SOFTWARE: Without user buy-in, even the best software can fail. Here's how to encourage employees to use the system you just installed. **○ QuickLink 43024**

What's a QuickLink?
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Microsoft Upgrades CRM Applications

Microsoft Corp. today plans to announce an upgrade of its CRM software that's designed to provide tighter security and simplified installation. Version 1.2 of Microsoft CRM also supports more languages and will be offered outside of North America for the first time, company officials said. The software is available in North America now and will be released elsewhere next month.

Intel Sees Strong Revenue in Q4

Intel Corp. said it expects fourth-quarter revenue to come in at the high end of the range it projected earlier in the quarter. Citing strong microprocessor sales, Intel said business should total between $8.5 billion and $8.7 billion. However, the company added that it will take a $600 million charge to account for a reduction in the long-term growth forecast for its wireless networking business unit.

Software AG Trims Development Focus

Darmstadt, Germany-based Software AG said it's narrowing the focus of its software development operations to two product lines in a cost-cutting move. The company will concentrate on XML-based integration tools and its mainframe software, which may be expanded through acquisitions. In addition, technical support for the XML tools is being shifted from Germany to India.

Short Takes

YAHOO INC. upgraded its instant messaging software to plug a buffer overrun security vulnerability that attackers could use to run malicious code on unprotected systems. . . . DELL INC. is offering a Linux distribution developed by Beijing-based Red Flag Software Co. on most models of the Power-Edge servers it sells in China.

Guidelines Released To Craft CSO Position

Job requires understanding of a wide range of IT and other risks, group says.

BY JAIKUMAR VIJAYAN

A KNOWLEDGE of information security risk management is just one of the many skills that a chief security officer needs for crafting, influencing and directing an effective organizationwide protection strategy.

Increasingly, the job also calls for an understanding of issues as diverse as emergency preparedness, crisis management and response, physical security, disaster recoverability, and privacy and regulatory matters. That's the assessment of Alexandria, Va.-based ASIS International, a 33,000-member group of security professionals that last week released draft guidelines that companies can use when developing CSO positions.

"There's been a lot of discussion on the need for organizations to create a centralized governance function for many areas of risk," said Jerry Brennan, president of Vienna, Va.-based Security Management Resources Inc. and one of the drafters of the document.

Defining the Job

The guidelines are the result of an attempt to give a formal definition of the scope, responsibilities, reporting relationships and experience needed to do the job, he said.

"There wasn't much available that addressed the pulling together, from a governance perspective, of all of the areas of security risk that an organization faces," Brennan said. "So we decided to try and craft a document that would be broad-based and truly represent what the CSO position would be in an organization."

The ASIS guidelines come at a time when a growing number of security professionals say there needs to be a top-level management position to oversee all aspects of operational risk.

"I have always found it preposterous to suggest that there are separate disciplines that require separate management" when it comes to operational security, said Dennis Treece, director of corporate security at the Massachusetts Port Authority in Boston.

For example, installing a privacy officer who is separate from the rest of the security team only "fragments the effort and ensures that the physical and virtual aspects of privacy have to be laboriously coordinated," Treece said. The same is true when it comes to having separate chief information security officer and CSO functions. "Having been both separately and now both at the same time, I can state with confidence that combining them makes the most sense," he added.

Even so, security professionals agree that only a relatively small number of companies have created a formal CSO function because of the substantial political and organizational challenges that need to be overcome in creating the role. Issues such as scope, reporting relationships and ownership of risk management functions can all be sticking points.

Broadening the Scope

The popular notion of the CSO being in charge solely of IT and physical security functions has also somewhat limited the effectiveness of the role, said David W. Stacy, global IT security director at St. Jude Medical Inc., a $1.6 billion manufacturer of medical equipment in St. Paul, Minn.

"I prefer the concept of the chief risk officer that encompasses these two areas" while also including other functions such as privacy, risk insurance and regulatory compliance, Stacy said.

"So, moving to a CSO model that only deals with IT security and physical security may be a logical first step to eventually getting to a CRO model," he added. "But even having a CSO would be a revolution, as opposed to an evolution, in many organizations."

But some security professionals have trouble with the concept of having an all-encompassing role.

For one thing, "there is a huge difference between the practice of physical security management and information security management," said Eddie Schwartz, chief technology officer at Securevision LLC, a Fairfax, Va.-based consultancy. "While both disciplines have the use of technology as a common element, the background and education of the practitioners are distinct."

There's also the danger of rolling far too many functions under the CSO umbrella, Schwartz said. "It's an unnatural organization of activities and doomed to failure in most organizations," he said. ☻ 43322

Relationship Management Key Skill for CSO Role

Relationship management skills are a top requirement for a successful chief security officer, according to ASIS International's recently released draft guidelines for the function.

Because of the wide scope of the job, CSOs must be able to "influence and nurture" relationships with business-unit leaders, government officials and professional organizations, according to the ASIS guidelines.

"Having good political, collaborative and marketing skills [is] critical for a CSO or chief risk officer," said David Stacy, a security director at St. Jude Medical.

Also crucial is subject-matter expertise. CSOs must either have the knowledge themselves or must ensure that adequate technical expertise is available to cost-effectively deliver security services, he said.

"Anyone with solid experience in one or more of the risk areas could do the job, as long as [he is] surrounded with experienced subject-matter experts and actually listens to them," Stacy said.

"The CSO has to be able to carry the water in the senior executive environment," said Dennis Treece, director of corporate security at the Massachusetts Port Authority. "This means communicating effectively with the CEO and the board. The CSO must know how to create and defend a budget in a constrained fiscal environment. He needs to have a résumé that garners respect and must keep that respect by being a team player, not someone who is always crying that the sky is falling."

– Jaikumar Vijayan

IBM Lures EMC Users With New Data-Migration Offering

Piper technology allows for transfers of data while systems remain online

BY LUCAS MEARIAN

IBM last week announced a data migration technology and services designed to lure EMC Corp. storage users to switch to IBM disk arrays, with the promise that corporate information can be transferred in a nondisruptive way.

IBM's migration program involves 100 consultants in its professional services business unit who have been trained to use a new device called Piper. The appliance, developed over the past year, uses built-in data migration engines to move information from rival disk arrays to IBM's products, including its Enterprise Storage Server (known as Shark) and FAStT product lines.

Piper splits the data stream from an array so information can flow to IBM's replacement storage device in addition to the existing host server. That allows data to be transferred while the system stays online, although the migration speed is slower than if the work was done off-line, said Lou Sciacchetano, worldwide vice president of competitive storage sales at IBM.

Sciacchetano said Piper can pull data from storage devices made by EMC and nine other vendors. But IBM is targeting EMC with the migration service. "There's lots of old, proprietary EMC boxes out there — 30,000 by my last count," he said.

IBM has been using Piper as part of a beta-testing program and said the migration offering has already helped it win over former EMC users like Royal Caribbean Cruises Ltd., Minnesota's Hennepin County, Insurance Services Office Inc. and the U.S. Department of Agriculture.

Bob Cosby, storage administrator at the Department of Agriculture's National Finance Center, said he completed the second phase of an ongoing migration from two older-model EMC Symmetrix arrays to an IBM Shark over the weekend after Thanksgiving. Cosby wanted to upgrade to newer storage technology to gain features such as snapshot copying, which allows instantaneous backups of data.

Cosby said that, with IBM's help, he transferred about 2.5TB of data between the arrays in 48 hours. "The thing I love about it is you're not spinning your own CPU cycles," he said, noting that the migration process was transparent to his applications.

According to Cosby, EMC and Hitachi Data Systems Corp. bid against IBM for the finance center's new data storage contract. Although the rival arrays were comparable in cost, IBM undercut the competition on storage management software, he added.

EMC doesn't use an appliance similar to Piper to move data to its arrays. But Chuck Hollis, EMC's vice president of platform marketing, said the Hopkinton, Mass.-based company has offered its own nondisruptive migration technology since 1995. "We use a combination of host software and storage-based replication, coupled with a rigorous planning methodology, to execute data migrations with a minimum of time, effort and risk," Hollis said. He added that during the past two years, EMC has migrated more than 1,000TB of IBM-stored data for 100-plus customers.

Nonetheless, Piper gives IBM a leg up on other storage vendors, said Anne MacFarland, an analyst at The Clipper Group Inc. in Wellesley, Mass. "These days, when you don't have that weekend window all the time to perform data migrations, you're going to have to do it while things are up and running," she said. ◗ **43287**

IBM'S PIPER APPLIANCE

- Has two configurations, one for migrating mainframe data and another (pictured) for transferring data from Unix, Windows and NetWare systems.

- Can move data to IBM's Shark and FAStT disk arrays, plus its externally attached 7133 Serial Disk System.

- Is designed to work with storage devices made by EMC and nine other vendors.

NetApp Signs Partnering Deals to Broaden Data Tools

Adds hardware, looks for help on life-cycle software

BY LUCAS MEARIAN

Network Appliance Inc. last week announced partnerships with Cisco Systems Inc., Veritas Software Corp. and FileNet Corp. as part of a plan to offer integrated storage systems for information life-cycle management, regulatory compliance and disk-based data backup.

In addition, NetApp introduced several products, including two new file servers and an upgraded version of its NearStore disk array for secondary storage.

The Sunnyvale, Calif.-based company also upgraded an appliance that provides network-attached storage (NAS) file-serving capabilities to storage-area networks (SAN), using disk arrays from other vendors for back-end storage (see box).

Regarding its partnerships, NetApp said it's qualifying its storage devices for use with Cisco's MDS 9000 family of multiprotocol SAN directors and switches. NetApp also plans to resell the switches and directors, starting with Cisco's MDS 9100 series fabric switches. Those devices will be available within 45 days, the company said.

To boost its bid to piece together a more complete set of tools for automatically controlling data throughout its entire life cycle, NetApp also will resell FileNet's content management software and Veritas' storage and data management products.

Carolyn DiCenzo, an analyst at Gartner Inc., said NetApp in June made a storage management application programming interface available for use by other vendors and is

PRODUCT DETAILS

NetApp's New Storage Devices

□ S980 Supports both file- and block-level data and scales to 32TB of capacity, or 64TB in a clustered configuration.

□ ●●●● Enhanced version of file-server engine for integrating NAS and SAN capabilities, with new support for IBM's Shark disk arrays.

□ ●●AS●●●E ●2 Upgraded secondary-storage disk array that scales to 96TB and works with enhanced data management software.

now trying to use the API to expand its sales.

The deal with FileNet lets NetApp offer FileNet's Image Manager, Content Manager and Records Manager applications. Meanwhile, NetApp will integrate Veritas' Data Lifecycle Manager and NetBackup software with its products.

According to NetApp officials, the addition of Data Lifecycle Manager will enable storage managers to do policy-based migration and archiving of data between NetApp's devices and a mix of servers. NetBackup will let users send backup copies of data on Microsoft Exchange servers and file systems running on Windows, Unix and Linux hosts to NearStore arrays, said Rich Boberg, NetApp's senior director of technology partnering.

"Sixty percent of our customer base uses Veritas for tape-based backup," Boberg said. "Having this as a seamless transition for them to go from tape to disk backup is a huge advantage for them."

Randy Kerns, an analyst at Evaluator Group Inc. in Greenwood Village, Colo., said the information life-cycle management plans pit NetApp against storage rival EMC Corp. in a new way. EMC has become a competitor to both Mountain View, Calif.-based Veritas and Costa Mesa, Calif.-based FileNet through recent deals to acquire software vendors Legato Systems Inc. and Documentum Inc.

The alliances make sense from that standpoint, Kerns said. But he added that NetApp is "not planning on becoming a storage management software company. They're providing capabilities for the companies already in that space." ◗ **43323**

IBM Shifts Focus On Software Sales

IBM said it's reorganizing and retraining the sales force in its $13.1 billion software group to increase the unit's focus on industry-specific sets of products. More than half of IBM's 13,000 software sales workers will be assigned to vertical industries over the next 12 months. IBM will also shift its marketing and development to emphasize application packages involving its five major software product lines.

Sun Ends Talks Over Java Deal . . .

Sun Microsystems Inc. said it has ended negotiations over a deal to merge its NetBeans Java development framework with the open-source Eclipse technology backed by IBM. Sun said it withdrew from the talks because the company wasn't offered "an equitable share in mutual development." IBM declined to comment.

. . . And Rolls Out Blades, Software

In other Sun news, the company announced a series of products at its European SunNetwork conference, including a blade server offering that supports devices based on both its UltraSparc processors and Intel Corp.'s x86 chips. Sun also released server and desktop software bundles with per-employee pricing it detailed in September [QuickLink 41523].

Linux Kernel Flaw Blamed for Attack

The developers of the open-source Debian Linux software said a recent intrusion into four of its servers was enabled by a flaw in the Linux 2.4 kernel. The vulnerability affects versions of the kernel prior to Linux 2.4.23. Patches were posted by Red Hat Inc. and other Linux developers.

MARK HALL ▪ ON THE MARK

SonicWall Boomed at The Comdex Show . . .

. . . says marketing VP Douglas Brockett, who acknowledged that his experiences might be contrary to those of other companies reported in this paper and elsewhere. Even given his satisfaction, he's not sure whether the venerable trade show, or any general technology trade show for that matter, will make it into his marketing budget in 2004 and beyond. **"IT experts will get their less-technical information on the Web,"** Brockett argues. But you won't just travel in the virtual world; he thinks you'll be heading to smaller, targeted conferences, "where like-minded people will discuss matters of common interest in detail." Brockett claims the small but steady stream of Comdexers who visited SonicWall Inc.'s booth were attracted by the low-cost TZW line of secure wireless network units that fits well into remote-office operations and will be upgraded to 802.11g next year. The fact that the Sunnyvale, Calif.-based company resells its Pro 3060 and Pro 4060 virtual private network concentrators to Cisco Systems Inc. **probably gave corporate IT booth visitors warm fuzzies** as well. They also undoubtedly liked hearing about the 2004 firmware upgrades to the Pro line that will let them handle a mix of Secure Sockets Layer (SSL) and IPsec traffic, cutting down on the number of systems to manage while giving users the levels of se-cure access they need for the applications they want to use. ▪ **If you really want secure communications, go fax.** "Faxes are traceable, hackproof and virusproof," claims Mark Malone, senior product manager for Captaris Inc.'s RightFax family. The company's products link into application workflows, from supply chains to law-office operations. In the RightFax world, pages are sent electronically to PC desktops or fax printers, Malone says, so there's more **flexibility and control about who sees what and when.** He boasts that RightFax has a good chunk of market share already, yet the client/server product will be over-hauled by the third quarter of next year. The software is being redesigned using .Net and will **swap out its proprietary Raima database for either Microsoft SQL Server or MySQL.** But users won't have to wait that long to see other changes. In February, Release 8.7 will have improved support for Notes and Exchange, and a couple of months later, Version 9.0 will include antispam features. If you're in the health care market, you have to wait only until next month to get HIPAA privacy features. That means lab techs can see only the patient data that's relevant to them and administrators can access even less. ▪ Less is more for the developers at Scapa Technologies Ltd. in Edinburgh. Scapa is a major contributor to Hyades, the monitoring and testing project for the open-source Eclipse framework. CEO Michael Norman says that by leveraging Hyades inside Eclipse, his team will **have to crank out only 20% of the code** needed to deliver plug-in tools for software writers. Granted, the 80% delivered by the open-source community is the relatively easy infrastructure part. Still, it means Scapa's plug-ins will get to market faster, like the Jan. 1 release of Scapa StressTest-Express. Designed for e-commerce applications, the testing tool can simulate an unlimited number of users running an application through its paces, banging on everything from SSL to database access. Norman expects Scapa to eventually deliver testing tools for Web-based applications using SAP and, he hopes, Oracle. ▪ Eclipse is being spearheaded by IBM, which sees the development framework as an alternative to Microsoft Corp.'s .Net. But Eclipse's rising popularity means IBM will need to relinquish control of the project. Already at 60 IT vendor members and growing monthly, "it needs to break away from the mother ship," Norman says. He predicts the **next executive director of Eclipse won't be from IBM.** Once that happens, expect to see the likes of Oracle Corp. and Sun Microsystems Inc. jump on board. Microsoft, too? Not in your wildest dreams. ◐ **43310**

A Path to Better Apps

Candle Corp. in El Segundo, Calif., tomorrow will release six packages for J2EE or WebSphere-based application integration projects. As part of the PathWAI line of services and tools, Candle will offer four new consulting services for developers – two for J2EE and two for application integration work. Not to mention a Workbench tool set designed to improve application scalability and performance.

CA Offers New Option for Web Services Management

BY CAROL SLIWA

Companies that have reached the stage where they need to manage Web services have typically had to turn to small, specialty vendors for assistance. But they will get a new option today when Computer Associates International Inc. releases the latest addition to its Unicenter product line.

Unicenter Web Services Distributed Management (WSDM) can be embedded into both Java- and .Net-based application servers to natively observe XML traffic in real time, according to Marc Camm, a director of business development at CA. He said the approach will give users a better-performing option than the agent- and proxy-based products in the market provide.

"Each application server has its own SOAP stack, and we live at that level," Camm said. He said the Unicenter WSDM leverages a company's existing infrastructure and needs to be installed at only one of the endpoints of the Web services application. "There's no need for a new logical or physical tier," he said.

Nick Gall, an analyst at Meta Group Inc., said he has seen little user demand for Web services management products to date. He estimated that he has spoken with no more than 20 clients that have enough Web services in production to warrant management tools.

But Gall said the CA announcement is noteworthy because a major vendor is finally shipping a product in the Web services management market, even though it's just a 1.0 re-lease. He added that the product will eventually comply with standards being developed through the Organization for the Advancement of Structured Information Standards in Billerica, Mass.

CA said its latest Unicenter offering is part of a collection of products that will enable end-to-end management of a Web services environment.

Pricing for Unicenter WSDM starts at $25,000 per server. The product can be embedded into application servers from BEA Systems Inc., IBM, Microsoft Corp., The JBoss Group LLC and Sun Microsystems Inc. ◐ **43335**

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DOD, Corporate RFID Backers Seek Standard

Pentagon official says two sides are close to deal on common specifications

BY BOB BREWIN

A KEY PENTAGON supply chain official last week said the U.S. Department of Defense is working with EPCglobal Inc. to develop radio frequency identification (RFID) standards that could satisfy the needs of both corporate and military users.

Alan Estevez, assistant deputy undersecretary of Defense for supply chain integration, said during a press briefing that the standards process is complex. But Estevez added that he thinks the DOD and Boston-based EPCglobal can agree on common standards "in a matter of months."

The possibility that suppliers would have to support two sets of RFID standards arose in October, after the DOD mandated the use of RFID tags on shipping pallets and crates starting in early 2005 — a deadline similar to one that Wal-Mart Stores Inc. has set for its top suppliers.

EPC vs. ISO

Wal-Mart and other corporate users plan to adopt the electronic product code (EPC) standards being developed by EPCglobal. But the Pentagon said the tags its suppliers use will have to conform to specifications from the International Standards Organization [QuickLink 42347].

The DOD and EPCglobal are now cooperating to devise a set of standards that could be incorporated into the ISO's work, according to Estevez.

He added that the passive RFID devices Wal-Mart wants to use in its supply chain should accommodate most of the DOD's requirements, although military officials are seeking a data storage capacity that's larger than the 96-bit limit supported by existing commercial tags.

The expanded capacity is needed to support the unique identification numbers that the DOD assigns to "high-value" goods that cost more than $5,000, Estevez said. The tags used by the military will also have to be capable of handling multiple reads and writes of data, he added.

Mike Liard, an analyst at Natick, Mass.-based Venture Development Corp., said blending EPCglobal's standards into the ISO's specifications would alleviate the added costs that suppliers say they will face if the DOD and Wal-Mart support different approaches.

In addition, both Wal-Mart and the Pentagon could reap economic gains from using the so-called Class 1, Version 2 tag envisioned by EPCglobal, Liard said. That's because Texas Instruments Inc. and Royal Philips Electronics NV are both gearing up to produce the new devices in large quantities, which is expected to result in lower costs compared with existing RFID tags.

Estevez declined to say how much it will likely cost the DOD to install the IT infrastructure needed to support RFID in its supply chain, including the addition of RFID readers in warehouses and supply depots.

He acknowledged that it's unrealistic to expect all of the military's 43,000 suppliers to begin using RFID tags by January 2005. Estevez's statement came one day after the DOD disclosed more details about its RFID plans to key suppliers at a meeting in Fairfax, Va.

In a presentation at the RFID meeting, Estevez said the Pentagon wants to get its top 100 suppliers on board with RFID tags by the start of 2005 and add another 400 companies by the middle of that year. All suppliers should begin using the devices by January 2006, he added.

Some attendees at the RFID meeting described it as more collaborative than a similar event Wal-Mart held for its suppliers last month. But Estevez said the DOD has "drawn a line in the sand" on the use of RFID tags.

"It's going to be in every contract," he said. **● 43341**

Rollout Plans

	DEFENSE DEPARTMENT
■ Will start in January 2005 with its top 100 suppliers; expects all suppliers to adopt RFID by the start of 2006	■ Wants its top 100 suppliers to begin using RFID in January 2005 and its top 500 to do so by July of that year
▫ Initial deployments planned at Texas distribution centers serving about 150 stores	■ Is mandating that all its suppliers use the technology by January 2006

IN NEXT WEEK'S ISSUE

Smart Tags, High Costs: Read about the ROI challenges RFID users face. COMING DECEMBER 15

Users Benefit From Business Performance Tools but Say Rollouts Pose Challenges

Software supports planning, tracks financial targets

BY MARC L. SONGINI
BOSTON

Companies can improve their internal operations and slash costs through the use of business performance management (BPM) tools, according to attendees at a conference on the technology. But there are considerable challenges to be surmounted, they warned.

BPM projects involve the use of business intelligence software, such as balanced scorecard or analytic applications, to help executives prepare plans and analyze corporate performance via a dashboard-style user interface.

The need for CEOs and chief financial officers to comply with the accounting and reporting mandates of the Sarbanes-Oxley Act has given the BPM market a boost, said Craig Schiff, CEO of BPM Partners Inc. The Stamford, Conn-based consulting firm co-sponsored last week's Performance Management Conference with the Digital Consulting Institute in Andover, Mass.

A BPM system can deliver a holistic view of business performance, allowing executives to identify revenue and cost savings opportunities, Schiff said. But software costs can range from $75,000 to more than $500,000, he added.

And setting up BPM processes can be difficult, according to a half-dozen users.

"The biggest challenge, and I don't care what kind of consultant you get or what you do, [is that] you truly have to understand what drives your business," said Celia Spitz, vice president of planning and analysis at Miami-based Vitas Healthcare Corp., which provides hospice services.

IT and business managers who are implementing BPM systems must decide "what the critical bits of information are that make a difference in a business," Spitz noted. "If you don't, it's just regurgitating data for 'analysis paralysis' and doesn't tell you anything."

Vitas Healthcare uses a homegrown executive dashboard that's connected to online analytical processing software developed by Applix Inc. in Westboro, Mass. Spitz said the BPM system has helped the company reduce its auto-mileage and overtime costs.

RSA Security Inc. uses software that was developed by Comshare Inc., which is now part of Markham, Ontario-based Geac Computer Corp., to measure whether financial targets are met. The software has paid for itself, said David Stack, manager of corporate financial planning and analysis at RSA, a security software vendor in Bedford, Mass.

But Stack added that measuring how much of a return on investment RSA is getting is hard because many of the performance improvements made possible by the BPM system are qualitative.

For Viasys Healthcare Inc., the toughest part of its BPM rollout was ensuring that end users employed the system, because its blueprint validates the accuracy and consistency of data, said Matt Gualtieri, finance project manager at the medical products maker in Conshohocken, Pa.

But the hard work has paid off, Gualtieri added. "I think the pain and effort of going through implementing a system like this is worth it, because it forces you to do things better." **● 43334**

NEW DEVELOPMENTS

Geac announced a set of BPM tools that combines software it bought in two acquisitions this year. Available now.

BPM Partners said it's developing dashboard-style user interfaces tailored for different industries, with prebuilt charts, graphs and performance gauges. Due next month.

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3Com, EDS Agree On Reseller Deal

Continuing an effort to revitalize its enterprise networking sales, 3Com Corp. announced a deal for Electronic Data Systems Corp. to resell its routers, switches and voice products. The global agreement is 3Com's first with a top-level IT services provider. But EDS said the deal isn't as comprehensive as an existing one it has with 3Com rival Cisco Systems Inc.

Canadian Railway Hands IT to IBM

Canadian Pacific Railway Ltd. said it has signed a seven-year, $154 million (U.S.) outsourcing deal with IBM Canada Ltd., which will manage the Calgary, Alberta-based railroad company's IT infrastructure. About 100 IT workers at Canadian Pacific Railway are being transferred to the IBM subsidiary along with data centers in Calgary and Toronto.

CGI Signs Two Outsourcing Pacts

Montreal-based CGI Group Inc. announced a pair of IT outsourcing contracts. CGI said it will manage all IT operations at Alcan Inc.'s Rolled Products North America division in Cleveland as part of a 10-year, $113 million deal. In addition, CGI has signed a 10-year, $167 million contract with The Robert Plan Corp., a Bethpage, N.Y.-based auto insurer.

Hong Kong Firm Is Top Pivotal Bidder

Pivotal Corp., a CRM software vendor in Vancouver, British Columbia, said a unit of Hong Kong-based Chinadotcom Corp. has topped two other buyout bidders with a $52 million offer. Pivotal last month agreed to sell itself to an investment firm that wanted to merge the company with Talisma Corp. in Kirkland, Wash. But the investment firm last week said it's releasing Pivotal from that deal.

Las Vegas Schools Mix IP, Digital Communications

$31M project includes new backbone network, plus 27,000 dual-mode phones

BY MATT HAMBLEN

THE PUBLIC SCHOOLS in Las Vegas are nearing the midpoint of a backbone network installation that will support one of the largest IP-enabled phone systems deployed worldwide — a communications upgrade that's expected to cost a total of $31 million.

By early January, half of the 289 schools in the Clark County School District will be connected to an IP-based metropolitan-area network based on Alcatel SA's OmniPCX Enterprise technology, said Philip Brody, the school system's chief technology officer. The MAN rollout is budgeted at $15 million and should be completed next November.

Clark County, the nation's sixth-largest school district, is spending an additional $16 million to outfit its offices and every classroom with about 27,000 Alcatel phone sets that can operate in both digital and IP modes. About 5,000 phones have been installed, and Brody said that project will take another two years to finish.

Explosive Growth

The MAN and the dual-mode phone system are designed to to support the school system's explosive growth. The district, which serves 268,000 students and has 30,000 workers, is adding new schools at the rate of one per month.

"This is a crazy place, not just because it's Vegas, but this is also an incredible juggernaut of education and technology," Brody said.

MORE NEWS

Avaya is announcing an upgrade of its IP telephony software, plus a series of new hardware devices and phones:

QuickLink 43364
www.computerworld.com

The phones will be used primarily in digital mode in order to take advantage of digital wiring that was recently installed in two-thirds of Clark County's schools. But some of the phones will be IP-based, Brody said. In addition, the fiber-optic links and Gigabit Ethernet switches being built into the MAN support IP.

The hybrid plan was recommended by a consulting firm three years ago, Brody said. St. Louis-based Dietrich Lockard Group Inc. said the school district could save $2 million per year by installing a converged voice and data network.

Another advantage of an IP-enabled system is that teachers will be able to make emergency calls from their classrooms, but incoming calls can be routed elsewhere to avoid class-time interruptions. "We never had a public meeting about this project where the need to have a 'do not disturb' feature didn't come up," Brody said.

To protect against potential network failures, every building will retain one line to the circuit-switched public telephone system, he added.

Paris-based Alcatel's networking hardware and software was sold to Clark County by Verizon Communications in New York. Verizon has also provided project management and installation support, according to Brody.

Elizabeth Herrel, an analyst at Forrester Research Inc. in Cambridge, Mass., said the predictions of millions of dollars in annual savings are realistic because the new system will require less switching hardware at each location. "IP telephony is a practical solution, especially in places such as schools or banks where there are many offices, classrooms and branches," Herrel said. **43301**

Clark County's **PHILIP BRODY** expects to save millions annually.

Start-up Aims Software at Design of Data Center Racks

Web-based tool creates drawings, measures IT needs

BY MATT HAMBLEN

Software start-up Visual Network Design Inc. this week plans to launch its first product, a Web-based tool for creating drawings and reports that can help streamline the process of designing racks for networking and storage devices.

The product, called Rackwise, is aimed at systems integrators and corporate IT staffers who plan and configure the racks that hold switches, server blades, cables and other equipment. A proprietary database uses drawings created by Rackwise to calculate power, air-cooling and space requirements, said Emmett DeMoss, CEO of Visual Network in Burlingame, Calif.

Jasmine Noel, an analyst at Ptak, Noel and Associates in Cambridge, Mass., said Cisco Systems Inc. and other big networking vendors sell configuration tools for their own products. "But the minute you mix and match hardware, they're useless," she noted.

Both Noel and John Madden, an analyst at Boston-based Summit Strategies Inc., said Rackwise could be helpful as large corporate users begin reorganizing their IT architectures around the concepts of dynamic computing, virtualization and policy-based management.

At companies that adopt so-called adaptive business processes, systems managers will need automated tools to help them quickly rewire and reconfigure systems, they said.

Chris Shoop, the top executive at systems integrator Conexus Technologies LLC in West Chester, Ohio, has used Rackwise since May and hopes to become a reseller of the software. Shoop said he uses the technology to help "describe what the end deliverable will look like" when Conexus is configuring system setups for clients.

Shoop said Rackwise has also accelerated the design process, reducing jobs that took three hours with some computer-aided design tools to as little as five minutes.

"Designing systems is typically a hairy process and not well planned," he said. "Projects tend to happen pretty quickly, with the end users ordering a bunch of software and hardware and as an afterthought realizing they need to connect it to more power or slam it all in a rack."

But Shoop said one feature that he hopes to see in future versions of Rackwise is support for planning and designing a series of racks within a larger system. Visual Network plans to do so in the next revision, DeMoss said. **43309**

NEW SOFTWARE

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PeopleSoft to Change Fees For J.D. Edwards Products

Goal is to unify pricing model for ERP applications from both vendors

BY STACY COWLEY

STARTING EARLY next year, PeopleSoft Inc. will unify the pricing models for its Enterprise software line and the EnterpriseOne line built around the applications it picked up through its August acquisition of J.D. Edwards & Co. — a change that will alter the licensing structure J.D. Edwards customers are accustomed to.

After the J.D. Edwards acquisition, Pleasanton, Calif.-based PeopleSoft formed three product lines: Enterprise, a portfolio containing its traditional applications; EnterpriseOne, a rebranded suite of J.D. Edwards applications; and World, the portfolio for J.D. Edwards' legacy AS/400 World software. Rather than mingling code bases, PeopleSoft plans to indefinitely maintain the three brands.

Melding Models

PeopleSoft and J.D. Edwards had different pricing strategies, however. PeopleSoft uses what it calls a "value-based pricing" model, in which its software has no list prices. Fees are calculated based on a number of factors, including a customer's size, industry and annual revenue. The licenses usually cover an unlimited number of users. J.D. Edwards had a more traditional per-user licensing model for its applications and modules.

"We've been doing a lot of work to roll out a single pricing model next year. We're moving more toward the PeopleSoft model," said Les Wyatt, a former J.D. Edwards executive who now serves as general manager of People-

Soft's EnterpriseOne line.

The change will affect only Enterprise and EnterpriseOne customers. World, for which additional licenses are sold almost entirely into the existing base of about 3,400 customers, will continue to be priced on a per-user basis. EnterpriseOne also has about 3,400 customers.

The change will affect EnterpriseOne customers as they license new modules from either the EnterpriseOne or Enterprise product lines. Maintenance fees for EnterpriseOne will also likely rise, Wyatt said, though he noted that J.D. Edwards had been raising its maintenance charges steadily

throughout the past three years. Details of the pricing changes are still being worked out, he said.

"One of the things we don't want to do is move to a model that arbitrarily and dramatically increases our prices," Wyatt said. "Our users will be paying roughly the same amount."

Not Convinced

One EnterpriseOne customer said he's keeping a wary eye on PeopleSoft's licensing plans. Manufacturing company Consolidated Container Co. in Atlanta has about 400 employees in several facilities using EnterpriseOne applications. Vice President of IT

Andrew Ziegele said PeopleSoft's sales team approached him last month about moving to a new licensing plan that would give him an unlimited number of user licenses.

But Ziegele has no pressing need for more user seats, and the cost of the proposed new plan was around $400,000. "That's pretty much like re-licensing the whole thing," he said. "I'm concerned about the licensing. I can see why there's some confusion."

PeopleSoft indicated to Ziegele that any licensing changes to his contract would be optional, so he won't be forced into an expensive re-investment to maintain his current software configuration. Ziegele is considering picking up several new modules, though, and said he isn't sure how expensive those additions would be.

PeopleSoft's pricing plans

> ❝ I'm concerned about the licensing. I can see why there's some confusion.
>
> **ANDREW ZIEGELE,** VICE PRESIDENT OF IT, CONSOLIDATED CONTAINER CO.

will be finalized and implemented in the first quarter of 2004, most likely in January, Wyatt said.

At the same time, PeopleSoft plans to unify its sales force with that of J.D. Edwards, which has remained separate since its acquisition. Sales executives will specialize by region and industry, but every sales employee will be able to sell every PeopleSoft product, Wyatt said. ❍ **43343**

Cowley writes for the IDG News Service.

Patch Management Options Grow in Wake of Blaster Worm

LANDesk, other vendors rush to meet demand for automated patching tools

BY JAIKUMAR VIJAYAN

This summer's Blaster worm was one of the first pieces of malicious code to spread itself by means of network-connected PCs. And the worm highlighted the need for more efficient patching processes in many companies.

Since then, several vendors have announced automated management products designed to help companies quickly test patches, identify

systems that need them and automatically update those systems.

This week, South Jordan, Utah-based LANDesk Software Corp. will join the fray with the shipment of LANDesk Patch Manager for automated vulnerability assessment and patch distribution. The software is designed to give administrators a centralized view of the patch status of systems on their networks, identify specific vulnerabilities, test and deploy the patches, and then audit them as needed.

Other vendors marketing similar products include Shavlik Technologies LLC in Roseville, Minn., St. Bernard Software Inc. in San Diego, and PatchLink Corp. in Scottsdale, Ariz.

Raymond James Financial Inc., a financial services firm

in St. Petersburg, Fla., has been beta-testing LANDesk's new patch management software for the past few months and is preparing to roll it out to 10,000 systems on its network.

The company has been using another LANDesk software tool to distribute patches companywide for several years. But LANDesk's new patch management function will give the company a better view of the systems that need to be patched and speed up the process of deploying the patches, said Andy Nosal, a supervisor of LANDesk operations at Raymond James.

"I like the ease of being able to find out what patches are on what systems and seeing all the affected machines" that need patching, Nosal said.

Stamford, Conn.-based Pitney Bowes Inc., meanwhile, is deploying similar patch man-

agement technology from Emeryville, Calif.-based BigFix Inc. to 22,000 client systems.

The tool will not only help Pitney Bowes deploy patches much faster, but it will also help the company enforce tough new security policies related to network-connected desktops, notebooks and other client devices, said David Giambruno, the company's director of strategy and security.

Since BigFix's software allows Pitney Bowes to monitor the patch status and virus signatures on every client device, the technology has enabled the company to quickly identify improperly configured systems and either block network access to those systems or take remedial action, Giambruno said.

The client-level impact of Blaster forced a "fundamental change in our thinking," he said. Whereas before the focus had largely been on protecting the server environment, the current emphasis is also on ensuring that client systems don't compromise security, Giambruno added. ❍ **43337**

WORM WATCH
For more on this topic, visit our Knowledge Center:
❍ QuickLink a1280
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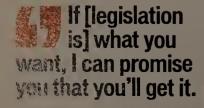
That commitment has come under increased scrutiny during the past year, as various studies and independent commissions have concluded that market forces alone haven't been sufficient to yield needed improvements in security.

At a summit news conference, Robert Liscouski, assistant secretary for infrastructure protection at the Department of Homeland Security, and Amit Yoran, the newly appointed chief of the DHS's National Cyber Security Division, were grilled by reporters about the wisdom of the government's nonregulatory approach to working with the private sector. Both Liscouski and Yoran said increased government regulation remains a possibility should the private sector fail to live up to its security responsibilities.

"The private sector owns the problem," said Liscouski. "There are a lot of people out there who are willing to legislate. If that's what you want, I can promise you that you'll get it." But he added that the Bush administration doesn't think that better security can be legislated or forced on the private sector by the government.

Yoran, making one of his first major policy speeches as director of the NCSD, asked the private-sector executives present — only eight of whom were from nonvendor companies — if they were satisfied with the current level of progress in cybersecurity. "I hope that you are not," said Yoran. "We are a nation at war."

In an interview with *Computerworld*, Yoran acknowledged the absence of user companies, such as utilities, natural gas companies, banks

> **If [legislation is] what you want, I can promise you that you'll get it.**
>
> ROBERT LISCOUSKI, DEPARTMENT OF HOMELAND SECURITY

IT Security Pros Confident of Defenses

SANTA CLARA, CALIF.

Despite a significant increase in the number of reported security incidents over the past year, a survey released last week by two industry groups reveals a high level of confidence on the part of IT security professionals.

As of the third quarter of 2003, public and private-sector organizations reported 114,855 incidents to the CERT Coordination Center in Pittsburgh. That's an increase of 40% over last year, according to the survey by the Business Software Alliance (BSA) and the Information Systems Security Association (ISSA).

The survey results indicate that the increase hasn't dampened the confidence of many security administrators, but whether that accurately reflects the views of corporate security personnel is unclear. Of the 1,716 ISSA members surveyed, 70% were from government agencies or IT vendor and services firms; only 30% were corporate users.

Released the same day that senior officials from the Department of Homeland Security warned that unwanted regulation would be the likely result if the private sector doesn't take ownership of cybersecurity, the independent survey found that three out of four IT security administrators consider their companies to be prepared to defend against a major cyberattack. Eighty-seven percent said patches for known vulnerabilities are up to date at their companies.

In addition, three out of four respondents said recent reports of software vulnerabilities have prompted their companies to strengthen their capabilities to respond to attacks. Seventy-seven percent said they have a formal security program in place, and a whopping 96% of those respondents said their programs have senior management sponsorship and approval.

Robert Holleyman, president of the BSA, said that while the survey shows progress is being made, "enormous challenges" remain, particularly in employee training and security funding at small and midsize businesses.

– *Dan Verton*

Technologies currently deployed or planned over the next 12 months

	DEPLOYED	PLANNED
■ Antivirus	99%	0%
■ Firewalls	97%	1%
■ E-mail filtering	74%	10%
■ Intrusion-detection systems	62%	
■ E-mail attachment blocking	62%	
■ Web site blocking	59%	
■ Vulnerability scanners	43%	
■ Encrypted e-mail	31%	

SOURCE: ISSA/BSA SURVEY OF 1,716 IT SECURITY PROFESSIONALS

and transportation firms, at the summit's debut. But he said the focus was to get technology providers moving on the problem.

A summit focused on infrastructure owners and operators is scheduled for next month, said Sally McDonald, the senior executive in charge of the DHS's outreach program.

Meanwhile, referring indirectly to a *Computerworld* report last week in which some industry executives criticized the role of powerful IT industry lobbying groups [QuickLink 43189], Harris Miller, president of the Arlington, Va.-based Information Technology Association of America, said those comments were erroneous and that the ITAA and other vendor groups that co-sponsored the summit have no lobbying power over the DHS.

Liscouski echoed that claim. "We're not going to let anybody who operates [a business] dodge their responsibility," he said. "This is not about mollifying industry." **43338**

Support

ter in India [QuickLink 43172].

Other major vendors, including IBM, Hewlett-Packard Co., Oracle Corp. and Computer Associates International Inc., last week said they don't plan to follow Dell's turnabout by reducing their reliance on global support operations.

Lori Moore, vice president of product support services at Microsoft Corp., said via e-mail that the company has never changed support locations because of user feedback, although it does get complaints "from time to time in each of our support centers." But she noted that Microsoft sets up support facilities in new countries "in a thoughtful and deliberate manner. We don't rush into other markets."

For example, Microsoft two months ago launched a pilot program to support some of its products from a site in Bangalore, India. However, Moore said it plans to take a "very selective" approach on the pilot project. No companies with Premier Support contracts are being supported from the new facility, she added.

Despite its pullback, Dell indicated that it might eventually shift PC support back to India. Glenn Bonner, CIO at Dell user MGM Mirage in Las Vegas, said providing technical support from offshore locations "really doesn't matter as long as the quality of service is the same and there is not a language barrier." If Dell can successfully serve users from India, "it'll just serve to reduce Dell's cost and ultimately give savings back to us," he added.

Tom Iannotti, vice president of business development at HP, said it doesn't make sense for vendors to continually chase around the world for the lowest labor costs. That requires constant training of workers, not only in the technical aspects of product support, but in English-language skills as well, he said.

IBM doesn't have any help desk operations in India, but it does handle support calls from a global network of facilities in Atlanta, Toronto, Scotland, Australia and China, according to a company spokesman. IBM isn't among the vendors that "pride themselves on doing things cheaply," he added.

Kirkland, Wash.-based vCustomer Corp. operates a pair of technical support outsourcing centers in India with a total of about 2,500 customer service workers and 700 other employees. Sanjay Kumar, the company's CEO, defended the quality of service that his India-based support technicians provide but acknowledged that their accented English can be hard for U.S. users to understand at first.

"To the user, it's a new accent, a different one," Kumar said. However, he added that vCustomer spends "thousands of dollars" per agent on computer training and to "help neutralize the accent." (Kumar isn't related to CA's CEO, who shares the same name.)

Several analysts said they view the offshore sourcing of support as a trend that won't go away. But IDC analyst Ned May noted that the hardware success Dell has reaped through tight-fisted management of its supply chain does not necessarily translate into the more people-based support business. **43340**

Reporters Matt Hamblen, Carol Sliwa and Marc L. Songini contributed to this story.

Offshore Tips

Users weighing purchases of products that are supported from overseas facilities should:

■ Check performance metrics, such as the percentage of problems that are resolved on the first call.

■ Ask to see third-party customer satisfaction surveys.

■ Evaluate call center training programs and the language skills of support workers.

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IT Hiring Plans Vary, Despite Signs of Demand for Workers

Tech recruiters cite heightened jobs activity

BY THOMAS HOFFMAN

With the U.S. economy picking up steam, some recruiters are seeing a rise in demand for technology workers. But several IT managers who were interviewed in late November said they have a mix of hiring plans.

Following a series of hirings earlier this year, Choice Homes Inc. has as many IT staffers as it expects to need for the next six months, said Andrew Brimberry, director of information services at the Arlington, Texas-based home builder.

Choice Homes added a database administrator, a WAN technician and two help desk administrators to help support an expansion of its IT infrastructure that was fueled by revenue growth. With those jobs filled, Brimberry said he doesn't see any need to further expand his 24-person IT staff.

The hiring situation is similar at Emcor Group Inc., but for different reasons. Norwalk, Conn.-based Emcor makes electrical and mechanical systems for commercial construction uses and offers a variety of facilities-related services. But unlike Choice Homes, which has benefited from continued strength in new housing starts, Emcor has been hurt by weakness in the commercial sector.

That's the main reason why Emcor plans "little to no growth in staff" within its IT department and has only a handful of major technology initiatives in its 2004 budget, said CIO Joseph Puglisi.

On the other hand, PRG-Schultz International Inc. plans to increase its IT staff by more than 10% next year. CIO Eric Goldfarb said the Atlanta-based company, which does auditing work to help corporate clients identify overpayments to their suppliers, will add 20 domestic and international IT workers to its current staff of 185 to support increasing customer demand.

"But I think the trend this upcoming year is for highly specialized talent," Goldfarb added, citing PRG-Schultz's need for experienced IT professionals with ERP skills as an example.

According to New York-based Dice Inc., 72% of the 263 human resources managers and recruiters who responded to an e-mail survey in August said they planned to increase their hiring of tech workers within either three or six months. "This is a huge difference from the survey we conducted last year," said Scot Melland, president and CEO of Dice, which operates an online job board for tech workers.

The new survey didn't explore the types of positions that are in greatest demand, nor did it assess hiring by vertical industry. But Melland said an analysis of his company's Web site shows that demand remains strong for "traditional, hard-core IT positions," such as Unix systems administrators and Oracle and SQL Server database administrators.

The industries that are doing the most hiring include aerospace and defense plus financial services, Melland added.
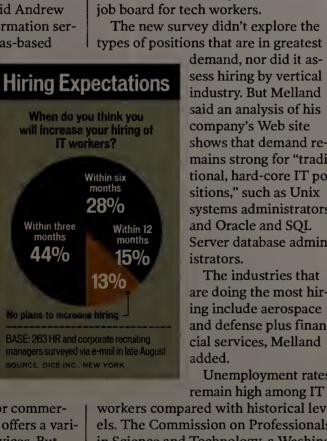
Unemployment rates remain high among IT workers compared with historical levels. The Commission on Professionals in Science and Technology, a Washington-based nonprofit group that does research on workforce and educational issues, said in a report released in September that 6% of IT professionals were out of work. The group added that the overall number of IT jobs has declined by 150,000 from its peak of 2.5 million in 2000 [QuickLink 41519].
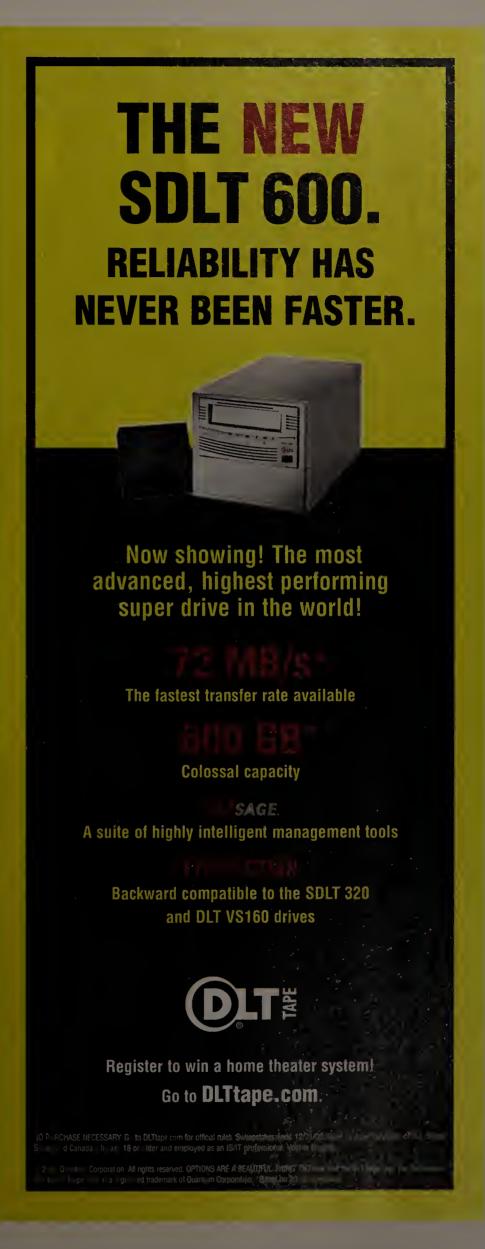
Conditions in the IT job market "have been very trying for the past two years, but things have picked up a lot since August," said Jim Tobin, a senior technical recruiter in the Rochester, N.Y., office of staffing services provider Manpower Inc. **◑ 43279**

Hiring Expectations

When do you think you will increase your hiring of IT workers?

Within six months **28%**

Within three months **44%**

Within 12 months **15%**

13%

No plans to increase hiring

BASE: 263 HR and corporate recruiting managers surveyed via e-mail in late August

SOURCE: DICE INC., NEW YORK

ON THE JOB

For full coverage of IT workforce issues, go online to our Careers Knowledge Center:

◑ QuickLink a2140
www.computerworld.com

BEA, IBM Team on New Java Specs

BY CAROL SLIWA

BEA Systems Inc. and IBM, rivals in the application server software market, are teaming up to propose three Java specifications in a bid to further the cause of application consistency and portability.

The two companies published the specifications late last month and submitted them under royalty-free terms to the Java Community Process (JCP) organization, which Sun Microsystems Inc. set up to evolve its Java technology. Voting by JCP members on whether to accept the specifications began last week, and the results are due to be announced on Dec. 16.

Perhaps the most significant specification for corporate developers is one called Service Data Objects. SDO aims to provide a simple, unified programming model for accessing data from heterogeneous systems, including relational databases, XML-based data sources, Web services and enterprise applications.

Nick Gall, an analyst at Meta Group Inc., said many of his clients are grappling with the problem of providing uniform access to structured and unstructured data. "This has been a never-ending challenge for all application architectures," Gall said, calling it an issue for both Java and Microsoft developers.

BEA and IBM also published a pair of application programming interfaces. One is designed to let applications based on J2EE schedule work to execute concurrently, and the other supports the scheduling and receipt of timer notifications.
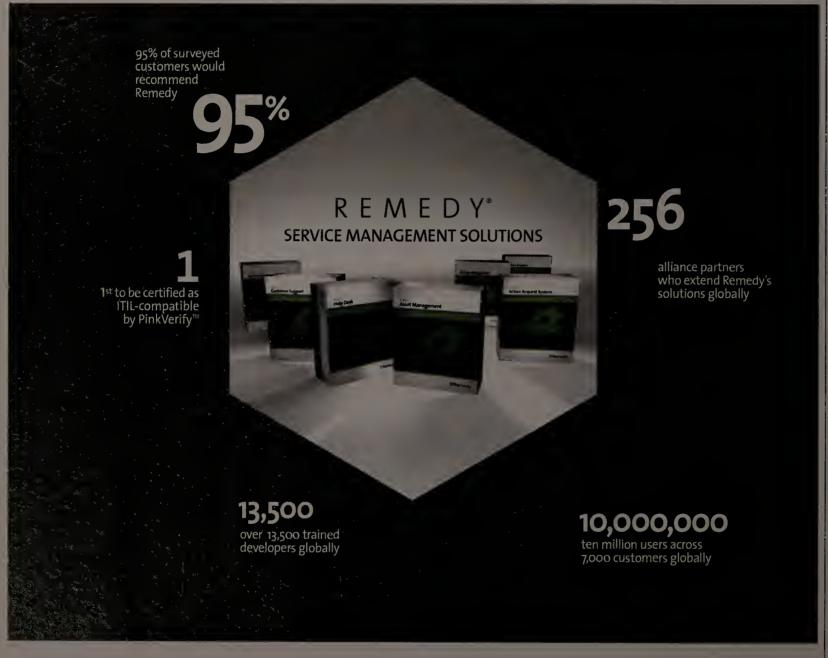
Allow for Feedback

Scott Dietzen, chief technology officer at BEA, noted that it can take one to two years for a Java specification to become a formal standard. But he said that by publishing the new specifications and implementing them in BEA's WebLogic and IBM's WebSphere software, the companies and other JCP members will be able to get more feedback from the marketplace.

"We clearly tried to streamline this process and help it along from an adoption standpoint," said Rod Smith, vice president of Internet emerging technologies at IBM. The specifications will be supported in WebSphere next year, according to an IBM spokeswoman.

Ted Schadler, an analyst at Forrester Research Inc., said BEA and IBM are trying to kick-start Java innovation in response to slow progress through the JCP. "I hope it works, because I think users could benefit from the pace of innovation that would happen," he said. ◯ 43157

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MARYFRAN JOHNSON

Titanic Discontent

EDITORS ARE STICKLERS about finding the right word or turn of phrase. So I had to cringe a little at calling our recent annual Job Satisfaction Survey by its given name [QuickLink a3810]. "Job Dissatisfaction Survey" would have been a lot closer to the truth.

Our online survey of 936 IT staffers and managers yielded a gruesome and depressing lineup of statistics, with 82% finding work more stressful, 69% saying they're not working to their full potential and 56% noting a drop in their satisfaction from a year ago.

Those results weren't all that surprising, really, when stacked up against the similarly dreary findings of our annual salary survey earlier this fall [QuickLink 41785]. That one documented shrinking pay scales, overloaded work schedules, worries about outsourcing and the continued negative impact of this industry's relentless economic doldrums.

Are your eyes glazing over yet? Mine, too. I can absorb only so much bad news in statistical form before it becomes just a stream of numerical white noise. And what's happening on the job in IT these days mirrors the situation in so many other sectors of the economy — blue collar and white collar alike — that disgruntlement feels like the status quo everywhere. More than half (51%) of the 3,278 U.S. workers surveyed last year by Spherion Corp. and Harris Interactive said they wanted to leave their current jobs.

So, who cares? Who's got the luxury of time to worry about unhappy IT staffers or chronically stressed project managers? Once the economy starts to party again, these people problems will fade away like a New Year's Day hangover, right?

Fade away is right. To other jobs at other companies, as our "Already Gone" story in this week's Manage-

ment section contends (on page 47, and online at QuickLink 43001).

Up to half of your overworked IT managers and star players may be planning an exodus as soon as an opportunity presents itself.

Worrying about an IT brain drain may seem pointless right now, when nobody's going anywhere fast and the most robust growth industry seems to be offshore outsourcing. But all sorts of employee surveys are issuing warnings about this hulking iceberg of discontent drifting along menacingly below the IT workplace surface, ready to strike.

Yet unlike all the other complex problems you're wrestling with, this one has two very basic, inexpensive solutions:

1. Start some candid conversations about workplace concerns within your IT group. Your ability to talk about what's on their minds could have

an enormous, positive impact on morale. "No matter how busy everyone is, you should be able to carve out just a little time to encourage discussions about what would improve conditions. Try taking small groups of staffers to lunch once a week to discuss their perspectives on how things are going," recommends Paul Glen, one of our Management columnists [QuickLink 42356] and author of *Leading Geeks: How to Manage and Lead the People Who Deliver Technology.*

2. Pay attention to and act upon what those conversations tell you. Can you cut back on overtime or put some lesser projects on the back burner? Can you build in more flexible work schedules or lighten workloads? "Employees understand and can handle the fact that the economy is tough," says Ed Jensen, a partner in the human performance practice at Accenture, who's been hearing firsthand about the "already gone" syndrome at IT client sites. "They want to feel part of the process and understand why decisions are being made."

Following this advice could help turn a dissatisfied crew into a more motivated one that will stay with you once the economy bounces back. Isn't it worth a shot? ◑ **43271**

NO, I HAVEN'T HEARD ABOUT ANY CHANGES IN THE ECONOMY SINCE YOU ASKED 15 MINUTES AGO.

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PIMM FOX

Saving Bandwidth And Britney

DURING A RECENT trip to the movies, I was greeted by Hollywood's not-so-subtle campaign to promote its view that video piracy is sucking money out of the pockets of stunt doubles (never mind the stars). It's only a matter of time before music moguls warn me not to steal cash from Britney Spears' favorite Cartier salesclerk.

The music industry is already waving nasty letters in the faces of colleges and universities cautioning them to curtail piracy. Luckily there's a technology solution to the problem, which technology itself created.

The technology that created the problem is high-speed Internet access, which is available throughout the campuses of most educational institutions. Students and faculty members use the Internet for research and legitimate file sharing. There's considerable competition for the limited bandwidth. Add in less-than-legitimate downloads of music and video, and a lot of bandwidth gets chewed up.

Jon Dodds, manager of network and tech services at Fairmont State College in Fairmont, W.Va. (7,200 students, 450 faculty members), wanted to take control of his bandwidth. In the process, he has made sure that the school does its bit to promote compliance with copyright laws. He's quick to point out this isn't about censorship; it's about using resources effectively.

His quest led him to Bakersfield, Calif.-based Lightspeed Systems Inc. His initial success with the 30-day evaluation copy of the company's bandwidth management product led him to buy it.

"We started by doing bandwidth prioritization between the dorms and the main campus," Dodds says.

During business hours, campus connections have priority over dorm use, and Dodds can filter out certain IP ad-

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BEN STEIN
Author, Humorist, Lawyer, Economist, Actor and Educator

Mapping the

Monday Keynote Address: From IT Expense to IT Value
Glen Salow, EVP & CIO, American Express

At the American Express Company, everything rides on the IT "manufacturing plant" forging the value chain for this diversified global provider of travel, insurance, financial and network services. During the past few years, CIO Glen Salow has crafted a new value agenda for IT within the company, turning an adversarial relationship with the business side into a partnership, leading a massive outsourcing operation and managing demand for technology services in ways that eliminated $50 million in expense. As one of the earliest of IBM's "Computing on Demand" customers in 2002, Salow transitioned more than 32,000 employees in 32 markets to IBM and crafted a similar but smaller deal with AT&T for networking services. The end result is a far more flexible IT infrastructure that responds swiftly to business change. In his keynote address, Salow will talk about recasting IT from a cost center to a value producer, and how IT leaders who concentrate on delivering value will build the best futures for their own companies.

Tuesday Keynote Address
David Bauer, First Vice President and Chief Information Security & Privacy Officer, Merrill Lynch

The Once and Future Infrastructure: An Enterprise Reality Check
Panel Moderator: Patrick Thibodeau, Senior Reporter, Computerworld

IT leaders are inundated with vendor pitches for autonomic, "on demand," and various forms of utility "pay as you go" computing, but how well do these evolving computing models match the actual needs of the enterprise? Upgrading their aging corporate infrastructures is indeed a top priority for many companies today, but the task involves a complex cascade of decisions around desktop management, server consolidation, blades and clustering, open source, wireless and even outsourcing considerations. Alternative financing and new sourcing approaches also come into play, but what are the tradeoffs? Loss of flexibility and control? Vendor lock-in? This panel of experienced senior IT managers will tackle these tough questions as they talk about their strategies, plans and problem-solving approaches to building out a "once and future" infrastructure primed for business growth.

Evaluating Infrastructure Renewal Through Scenario-Based Decision-Making
Brian Leinbach, SVP of Operations, Delta Technology, Inc. (a unit of Delta Air Lines)

IT managers have long known that the cost of development and initial deployment of IT systems is quickly matched by the cost of system maintenance. In order to communicate this to its parent company, Delta Technology developed a business risk analysis tool that addresses the infrastructure renewal of technology assets by reviewing the following characteristics: technology age, business value at risk, platform supportability, platform complexity and risk of failure. This session addresses how, by developing a standardized risk scoring process and using scenario-based decision processes, companies can evaluate proposed infrastructure investment scenarios and identify mitigation strategies.

Riding a Tidal Wave of Change: Data Management, Enterprise Integration and Web Services
Panel Moderator: Don Tennant, News Editor, Computerworld

Finding the most innovative yet cost-effective ways to manage data and integrate business and technology processes are among the most formidable challenges facing IT organizations today. But there are some compelling approaches emerging. Web services, in particular, hold the potential to enable companies to leverage software technologies (such as Sun's J2EE and Microsoft's .Net) more effectively, develop and build new applications faster, and integrate legacy and Web applications more gracefully. Yet questions about lax security and slippery standards compliance continue to plague Web services. The success (or failure) of integration projects is especially visible across a company's supply chain, in its wireless strategies and in business intelligence efforts. This panel will deliver a lively exchange of experience and advice on the key issues surrounding enterprise integration, including the skill set and cost challenges driving many companies to outsource development.

Steal This Great Idea: Audience Participation and Working Session
Moderators: Maryfran Johnson, Editor in Chief, Computerworld, and Mark Hall, Opinions Editor/Columnist, Computerworld

PRE-CONFERENCE GOLF OUTING
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The Pre-Conference Golf Outing at The Palm Course at the JW Marriot Desert Springs, is complimentary ($165 value) for registered IT End-Users. (Other participants, including sponsors and vendors, may play on an "as available" basis and are responsible for all applicable golf expenses.)

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Project Disasters: How to Predict Them, Prevent Them or Pull the Plug on Them

Paul Glen, President of C2 Consulting, Computerworld Management Columnist and Author of "Leading Geeks"

Despite significant progress over the last decade, project success rates are still dismally poor. Only about one-quarter of all IT projects are completed successfully. The rest are canceled completely or finished up late, over-budget and sometimes missing major functionality.

When used well, traditional IT project management approaches can provide excellent information about what happened, but they're lousy at predicting the future. In this presentation, Paul Glen will identify the five leading indicators of project success and show how to use them to predict the future, prevent problems and emerge a hero with technologists and business executives alike.

Breakfast Address: Homeland Security: Public/Private Partnerships & The Cost of Failure

Dan Verton, Senior Reporter, Computerworld, and author of "Black Ice: The Invisible Threat of Cyber Terrorism"

Cyber security is the common thread that ties together the nation's most pressing homeland security and critical infrastructure protection challenges -- challenges that could be with us for many decades as the war on terror unfolds. But does the absence to date of a second major terrorist attack on the U.S. indicate that the so-called public-private partnership between the government and the private sector is really working? Or is it quietly failing due to behind-the-scenes conflicts and political skirmishes between the public and private organizations responsible for our common defense? Computerworld's Dan Verton will kick-off a day of security, business continuity and project leadership discussions with a revealing look at what's gone right, what's gone wrong and why failure cannot be an option.

The Myth of Corporate Security: Why CIOs are Mad as Hell and not Going to Take it Anymore

Alan Paller, Executive Director of Research, SANS Institute

From his unique research and training perspective on the security industry, SANS Institute's Alan Paller will start off this session with a live demo of a hacking incident to show just why CIOs are so irate about the poor quality of protection their software and systems provide today. Who is to blame here, and what's being done about it? Why are security staffers constantly fighting a war they never seem to win? What can you do about users who ignore procedure and worsen security problems? What recourse is there against vendors who deliver unsafe systems? In this session, Paller will introduce you to several CIOs who have made dramatic, sometimes harsh moves that forced real change. He'll show what they did and how they did it and, in a couple cases, who got in the way.

No More Excuses: Responding to the Demands of Data Privacy Laws, Regulatory Compliance and Other Business Mandates on Corporate IT Security

Panel Moderator: Dan Verton, Senior Reporter, Computerworld, and author of "Black Ice: The Invisible Threat of Cyber Terrorism"

The security agenda for 2004 is long on mandates but short on money, leaving IT to battle with few resources against a slew of malicious attacks, tough new data protection laws and demands for metrics that demonstrate effectiveness of information security procedures. The long list of pressing concerns confronting Chief Security Officers and IT leaders includes regulatory compliance practices, application and network security, spam, enterprise monitoring, benchmarking against standards and disaster recovery responsiveness. How are leading organizations juggling and responding to these myriad challenges? When everything is a priority, how can you possibly prioritize? What kind of metrics are proving most effective in gaining support and understanding from the business side? This panel will hone in on what's working (and what isn't) in their own companies, sharing a wealth of practical advice and fresh insight about how to answer the security challenges facing so many IT organizations today.

"Best in Class" Project Leadership Lightning Round

A fast-paced trio of user presentations and audience Q&A, featuring the most innovative, high-impact case studies from the Premier 100 honorees

Selling Security to Your Beady-Eyed, Bean-Counting CFO

Doug Lewis, President, The Edge Consulting Group, Atlanta, and former CIO, InterContinental Hotels Group

From the "been there, done that" perspective of a longtime CIO, Doug Lewis will walk you through his methodology for building a business case for security spending with the biggest corporate roadblock of all: the Chief Financial Officer. This presentation will lay out a detailed, three-step process for determining appropriate security levels, building an affordable security plan and mapping out the ROI-based business case that senior executives will respect and support. Lewis will reveal everything from the raw ingredients of building a successful business case to the reasons why IT groups should outsource vulnerability assessments and penetration tests against key systems. He'll also explain the folly of low-balling the TCO (Total Cost of Ownership) of an expensive security overhaul, and provide specific examples (including the math) from several industry case studies.

IT Governance, Risk Management and the Future of the IT Organization

Panel Moderator: Julia King, National Correspondent, Computerworld

Many CIOs and senior IT executives are moving into expanded roles in 2004, as risk management, regulatory compliance, vendor/supplier negotiations and outsourcing management all become standard components of their leadership roles. But is IT governance ready to evolve beyond its previously narrow focus on technology spending and labor costs -- into real partnership with business objectives? How should potential IT investments be evaluated and mapped to companywide priorities? What skillset changes does the current IT organization need most? Where will future project leaders come from if outsourcing continues its aggressive growth? This panel will focus on these critical issues confronting corporate IT, and offer some experienced guidance on how to prepare for the high-risk changes ahead.

Integrating Human Capital: The Magic of Creative Adaptive Planning

Moshe Rubinstein, UCLA Distinguished Engineering Professor, and author of "The Minding Organization"

The most important thing to know about planning is that organizations do entirely too much of it, says this distinguished UCLA professor and author. Too many detailed rules constrict an organization's creativity and suck the life out of our capacity for adaptive planning. In his highly engaging, dynamic interaction with the audience, Moshe will illustrate the power of human problem-solving behavior. He will demonstrate the principles of complexity theory and the importance of living in a world that moves beyond its narrow focus on productivity and service and on to better ways thinking and behaving.

Mobilize for Innovation

Thornton May, Futurist and Computerworld Columnist

How do we judge technology leadership in today's complex and troubled business climate? Emulating old-think industrialist CEOs is a sure-fire trip to the dust heap of history. True IT leaders understand that the most unambiguous evaluation of leadership is performance – its perception and its reality. Given the powerful technologies available at close-to-commodity prices, the Suits are not out of line in asking, "What value is your IT organization creating today?" It is time to shift the IT engine of growth out of reverse and into overdrive. Tapping into his extensive research and consulting work with hundreds of CIOs, futurist Thornton May will zero in on the reasons so many IT restructurings fail and provide powerful insight from the top of the IT food chain. How are the world's best IT leaders reorganizing IT to transform business and gain control over the IT supply chain? Thornton will rattle your cage and stimulate new thinking about how companies should be mobilizing for the coming age of hyper-innovation.

Solve My Problem: A Town Hall Meeting on Risk Management and Project Leadership

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- ❏ Other

Number of employees in your entire organization (ALL locations):
- ❏ 10,000 +
- ❏ 5,000 - 9,999
- ❏ 1,000 - 4,999
- ❏ 500 - 999
- ❏ Under 500

Your job title/function:
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- ❏ VP/GM/Director
- ❏ IS/IT Director/Manager
- ❏ Other IS/IT Department Manager/Supervisor
- ❏ Other Corporate/Business Manager
- ❏ Corporate/Business Staff
- ❏ Consultant (Internal) or Other

The one item that best describes your involvement in the IT purchase process:
- ❏ Authorize the purchase
- ❏ Approve the budget
- ❏ Initiate the purchase
- ❏ Evaluate/recommend products, brands, vendors
- ❏ Identify/establish the need to purchase

What is your organization's primary vendor for servers?:
- ❏ Dell
- ❏ Hewlett Packard/Compaq
- ❏ Hitachi
- ❏ IBM
- ❏ Sun
- ❏ Unisys
- ❏ Other

What is your organization's most mission critical development/Implementation project this year:
- ❏ Business Intelligence/Data Management
- ❏ Web Services
- ❏ Mobile/Wireless
- ❏ Network Infrastructure/Storage
- ❏ Security
- ❏ Linux
- ❏ Enterprise Integration

What is the estimated annual revenue of your entire organization?:
- ❏ $10 Billion+
- ❏ $1 Billion - $9.9 Billion
- ❏ $500 Million - $999 Million
- ❏ $100 Million - $499 Million
- ❏ Less than $100 Million

What is your organization's annual IT/IS budget for all IT/IS products?:
- ❏ Over $1 Billion
- ❏ $500 Million - $999 Million
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- ❏ $1 Million - $9.9 Million
- ❏ Less than $1 Million

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dresses, block some peer-to-peer traffic and even segregate dorms by subnet. Using the graphic capabilities of the package, Dodds is able to see which protocols are using the most bandwidth and then allocate bandwidth as needed.

He uses the two servers that run the bandwidth management software in an array for fail-over protection, ensuring continuous connection to the network. Dodds even tests new configurations on one of the servers' arrays before promoting it to the primary array.

Prior to implementing the bandwidth management setup, Fairmont was considering purchasing additional bandwidth. That's now been shelved.

And as for pulling the plug on illegal music and video downloads, well, let's just say Britney can shop to her heart's content. ● 43186

THORNTON A. MAY

Disconnecting IT From Reality

IN THE PAST 60 DAYS, I have been knees-under-the-table with hundreds of IT leaders and scratch-and-sniff close to scores of vendor CEOs. In addition, I've attended more than my share of IT events. One of them, Comdex, brought together the ideas that have been swirling about me for the past two months, with frightening clarity.

We stand at a moment unprecedented in the evolution of IT. I use the word *unprecedented* because at no previous time in history has technology possessed more promise or its value been so seriously doubted. The doubts could overwhelm the promise, however, since two vast disconnects imperil our possibilities.

Disconnect No. 1: Despite being anointed by the mainstream media, Bill Gates, Windows and Microsoft aren't the future of our industry.

On Nov. 16, some 7,000 IT leaders streamed into the Aladdin Theatre in Las Vegas to hear what Gates had to say in his Comdex keynote speech. Yet barely half of the audience members were able to remain conscious through what may well have been the worst piece of oratory ever inflicted upon the technology industry. (In my row, half the people were asleep.)

It wasn't just a matter of Gates' skills as a speaker, but also of the ideas he was presenting.

Still, the mainstream press equates Microsoft with the future of our industry. For example, Steven Levy and the editors at *Newsweek* — known more for color-by-numbers linear thinking than strategic insight — recently devoted a cover story to Gates in which he talked about the future of computers. In doing so, they did both journalism and IT a disservice.

Even a modest bit of reporting would have revealed that most of the $6 billion that Microsoft is spending on R&D is focused on protecting existing product lines rather than on creating new franchises. Microsoft's strategic weakness is its repeatedly demonstrated inability to generate sustainable businesses outside its core competence of operating systems.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at thorntonamay@aol.com.

Disconnect No. 2: People believe Scott McNealy, but they scoff at their local Sun Microsystems sales reps.

Thirteen hours after Gates' Comdex speech, McNealy gave his. What followed was a brilliant, no-props-required tour de force explanation of where the industry has been and where we are going.

Later, the 200-plus C-level attendees at the Comdex CIO Boot Camp were asked whether they more admired the thinking of Microsoft's chief software architect or Sun's CEO. The answer was unanimous for Sun's boss.

Herein lies the disconnect. McNealy and his senior team are spooky smart and have thought hard and long about how our industry works. The top of the house at Sun has architected a plausible, affordable and practical alternative path to the Microsoft hegemony.

Unfortunately, this message isn't the one being delivered by the Sun sales force, which is perceived by most IT leaders as being little more than coin-operated box sellers. Sun's sales force is the least influential and respected of all the major vendors.

Prior to pulling out the order form, Sun salespeople need to channel the powerful ideas of their leader and reconnect themselves to the marketplace. They need to articulate what McNealy's big ideas mean for workaday IT leaders.

If Microsoft can jettison its addiction to and fetish with Windows and if Sun can escape the parochialism of its sales force, we might see a tech boom that makes the dot-com era pale in comparison. If not, doubts about IT's value will continue to grow, to the detriment of us all. ● 43185

WANT OUR OPINION?

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READERS' LETTERS

Indiana's Choice

Editor's note: *The news that the Indiana Department of Workforce Development had signed a deal with Tata America International Corp. that could have resulted in as many as 65 IT staffers from India being brought in to work on a project unleashed a flood of letters, both before and after the state rescinded the contract.*

WHAT'S AT ISSUE is not whether the contracting process was fair, but whether this should be allowed ["Job Agency Hires Foreign Help," QuickLink 42838]. It would have been creative of someone in the Indiana state government to search through its unemployment lists and put together a team made up of unemployed IT workers. But people aren't paid to think; they're paid to get the lowest cost.
Jim Tennyson
Independent consultant, Xcel Systems Inc., New Jersey, Jim.Tennyson@Xcelsystems.com

MORE POWER to Republican Indiana state Sen. Jeff Drozda

and his legislation that would disallow such ridiculous maneuvers. A state agency whose very purpose is to assist state residents with finding employment should not be sending work to overseas firms.
Dan Denver
Senior systems programmer, Port Ludlow, Wash., ddenver@olypen.com

ODDS ARE that hundreds of people who are qualified for the outsourced work are receiving unemployment compensation from the state. They should be given first opportunity at those jobs. Not only would the state get the job done, but some people would come off of unemployment rolls.

Every government agency should be required to include some type of "local workforce" requirements in contracts. We may not be willing to stop large corporations from sending jobs overseas, but we should be able to stop our government agencies from doing it.
John Schoettl, CISSP
Saint Cloud, Fla.

GOOD JOB, Gov. Kernan ["Employment Agency Scuttles India Contract," QuickLink 43167]. As an IT employee who is constantly seeing IT workers' livelihood shipped

overseas or overtaken by overseas workers, it's refreshing to see someone in government who is concerned about the thousands of unemployed U.S. workers. I had the pleasure of living in South Bend, Ind., when Joe Kernan was mayor. He did an outstanding job there, and it looks like his great work is continuing at the statehouse.
Edwin Shaffer
Data center production manager, Chicago, e_f_shaffer@hotmail.com

Eye-opener

I HAVE DEDUCED why Neil Montgomery is scowling in the picture accompanying the article "Eyes Everywhere" [QuickLink 42407]. As a midmarket CEO, he is receiving daily e-mail reports on the activity of individual sales representatives and the timely delivery of individual orders. This is an outstanding example of an information system providing the wrong individual with an overabundance of irrelevant information. Are decisions being made on a daily basis by the CEO at Davis Controls that require this data? Are the outcomes achieved by the activity at Davis sparked by these decisions enhanced by the consideration of this data? These

daily management reports do provide valuable updates on the performance of the organization, but they should be provided only to those who are responsible for the management of that particular facet of operations – a sales manager, for example.

Of course, if this implementation of the Macola Enterprise Suite enabled Davis to eliminate its sales manager, transfer sales management responsibility to the CEO, and in doing so improve both sales force efficiency and executive leadership effectiveness, please ignore my previous paragraph.
Nate Brandstater
Assistant vice president, La Sierra University, Riverside, Calif., nbrandst@lasierra.edu

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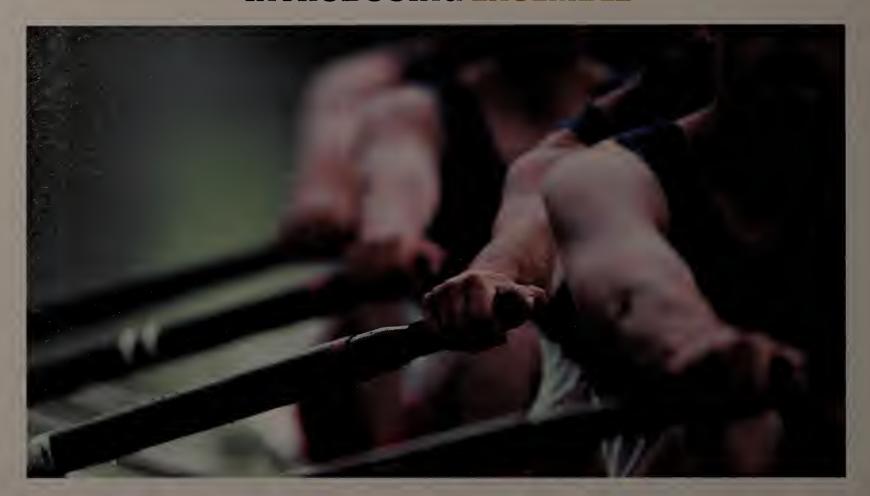
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Some six months after its launch, early adopters and consultants give Windows Server 2003 a thumbs up for turning many services off by default, but security concerns still remain.
BY CAROL SLIWA

THERE ARE GOOD reasons why expectations have run higher for Windows Server 2003 from a security standpoint than for any prior edition that Microsoft Corp. has released.

With its April launch, Windows Server 2003 became the first operating system to ship since Microsoft commenced its much-touted Trustworthy Computing initiative in earnest, after Chairman Bill Gates sent the company's employees a memo in January 2002 telling them that security would be the "highest priority."

Soon after Gates issued the memo, Microsoft shut down Windows production for 10 weeks to train engineers in writing secure code. The company delayed Windows Server 2003 for roughly a year, in part to allow more time for intensive source-code analysis, threat modeling, penetration testing, buffer overrun checks and security audits.

The natural question becomes this: Is Windows Server 2003 living up to its billing? Some say no. More say it's too early to tell.

Better Security by Default
Early adopters, analysts and consultants agree that Microsoft has made improvements — most notably, disabling many features and functions in the default install to reduce the surface area available for hackers to attack. Internet Information Server 6.0, for in-

stance, is turned off by default. And overall, Microsoft shut off or reduced privileges for more than 30 services in Windows Server 2003.
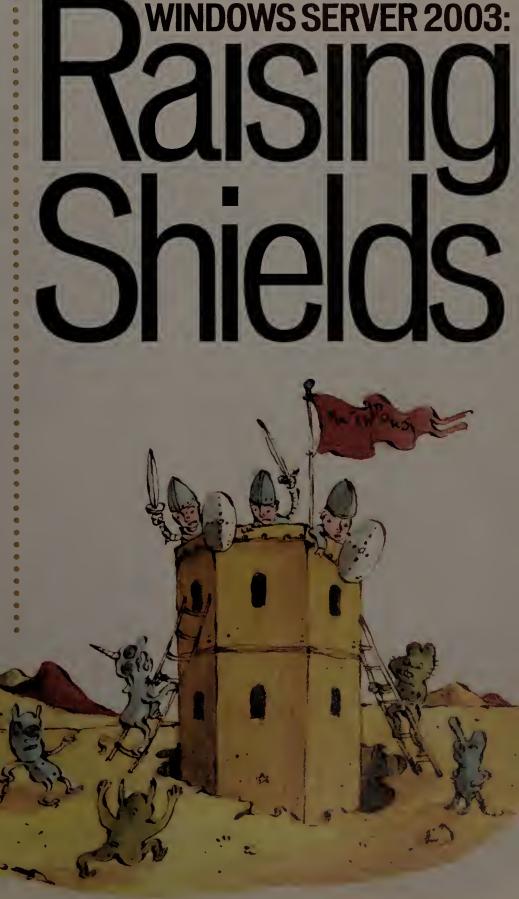
"You design the role of the server and turn on only things appropriate to the task at hand. That is the greatest security feature we've seen and taken advantage of in Windows Server 2003," says Scott Campbell, director of IT operations at First American Title Insurance Co. in Santa Ana, Calif. The company is currently certifying applications to run on Windows Server 2003 in preparation for a gradual rollout to 172 servers.

But early adopters have yet to reach a verdict when judging the new operating system from a vulnerability standpoint. Most have neither tested nor deployed Windows Server 2003 at large scale or in a wide enough range of scenarios to tell just how solid it is.

"We want to see at least two quarters' worth of data — and I don't care about patches. I want to see the penetration test results," says Jeremy Lehman, a senior vice president who heads the technology group at New York-based Thomson Financial, which has migrated about 20 servers to Windows Server 2003.

Some security experts are already dubious. They point out that some of the vulnerabilities affecting older Windows operating systems also plague Windows Server 2003, as demonstrated through patches that have been issued.

WINDOWS SERVER 2003:
Raising Shields

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"I still give them an F," says Russ Cooper, surgeon general at TruSecure Corp. in Herndon, Va. "We keep getting examples of how nothing's changed."

But where some see a black cloud, others see a brighter horizon. Microsoft CEO Steve Ballmer noted this fall during keynote presentations that Windows Server 2003 had four critical vulnerabilities at the 150-day mark, compared with 17 for its predecessor at the same stage. "It's insufficient, but it's real improvement," he says.

The total vulnerability count was 32 for Windows 2000 and 14 for Windows 2003, according to Mike Nash, vice president of Microsoft's security business unit. Nash notes that certain vulnerabilities rated critical for some products are moderate for Windows Server 2003 because of its more secure

> **We want to see at least two quarters' worth of data [on Windows Server 2003] – and I don't care about patches. I want to see the penetration test results.**
>
> **JEREMY LEHMAN,** SENIOR VICE PRESIDENT, THOMSON FINANCIAL

default configuration. He adds that the vulnerability comparison to Windows 2000 is fair, since there are more people scrutinizing the product than there were three years ago.

But Marc Maiffret, co-founder and chief hacking officer at security services vendor eEye Digital Security Inc. in Aliso Viejo, Calif., doesn't view the statistics that Microsoft has put out — or statistics from any vendor — as a credible gauge. He says some vendors may neglect to mention that some advisories address multiple vulnerabilities, or they may silently address a collection of vulnerabilities via a service pack. "I've never seen anyone do a valid breakdown on the numbers. Everyone seems to have some type of agenda," he says.

And Tom Bittman, an analyst at Gartner Inc., says Windows 2000 Server was a "monster release," so it's not surprising that its vulnerability count was higher in the first 150 days. In contrast, Windows Server 2003 is an incremental release, he says. "The billing was Trustworthy Computing, the most secure operating system. The impres-

sion people took away is we would see a dramatic improvement," Bittman says. "This is a battle they cannot win. All they need is one dangerous security problem out there, and it'll look like they haven't solved their problem."

New Security Features

Microsoft introduced a collection of features and enhancements to help improve security in Windows Server 2003. Administrators who use public-key infrastructure services, for instance, will be able to automatically enroll and renew certificates. They will also be able to control access to resources based on an employee's role and set policies to prevent executable programs from running on computers.

Michael Stephenson, a Windows Server group product manager, says another helpful new feature that shipped with a resource kit, the network access quarantine service, lets users check the state of computers accessing the network and block VPN access if necessary.

Yet no matter how many security enhancements the new server operating system has, early users most frequently mention the new default settings that lock down services that might be vulnerable to attack.

Instead of knowing how to turn services off, IT shops now have to learn how to turn them on, says Bob Lamoureux, chief architect at Thomson Financial. He says the process isn't difficult, although it doesn't hurt to check out the installation guides beforehand.

Although some early adopters think Microsoft did a good job with the new default settings, TruSecure's Cooper still doesn't think enough services are turned off. Internet Explorer, for instance, is enabled at a high security level in Windows Server 2003 for server administration purposes, but Cooper questions why the Web browser is enabled at all. "I need to know that I don't need to reboot my mission-critical server because of the latest IE cumulative update," he says.

Other features that Cooper thinks should not be on the box include Outlook Express, Media Player and Remote Assistance — "just all these tools that are unnecessary for a server and have been exploited in the past."

Cooper says he conducted a study at the end of July and found that almost every vulnerability affecting Windows 2000 Server also affects Windows Server 2003. "This certainly doesn't bode well for all the extra work Micro-

soft claims to have put into the code base," he says.

Gartner's Bittman says he thinks Microsoft will eventually have to consider a complete Windows code rewrite. "It's a lot easier to design secure code from Square 1 than it is to go back and find possible holes," he says.

It has certainly been a source of frustration for Microsoft to learn of bugs that date back to Windows NT 4.0. Steve Lipner, directory of security engineering strategy at Microsoft, says the company is, in come cases, finding new vulnerabilities in old code, including new patterns of buffer overruns.

Lipner says Microsoft does a postmortem to determine the cause of every vulnerability, trying to find out if it occurred because of a process error, a technology problem or a programmer's mistake. "Then we'll respond appropriately to try to update what we do and how we do it to make sure that our customers don't suffer through the cost of that problem again," he says.

But some users are growing frustrated. David Bryant, senior information security engineer at St. Petersburg, Fla.-based Raymond James Financial Inc., which has migrated about 25 of its 500 Windows servers to the new operating system, says he's concerned that the buffer overflow problems of prior Windows versions affect the latest iteration as well. He says he fears that Microsoft may be depending on users deploying firewall technologies to secure its software, rather than focusing on writing secure code.

"I'm disappointed that it appears that Server 2003 will again be an OS that I can count on for several critical patches every month," he says.

Maiffret at eEye says it will take another six months to determine whether the vulnerabilities that have surfaced

KEY CHANGES

To learn about key security improvements in Windows Server 2003, go online:

Q **QuickLink 43103**
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are flukes or signs of more to come in Windows Server 2003. But the early appearance of default remote system vulnerabilities — "the most severe type of vulnerability you can have in a Windows operating system" — has led him to conclude that Windows Server 2003 is not substantially improved securitywise and that companies with large Windows 2000 Server installations will find no cost justification to migrate.

Users of Windows NT 4.0 will be more compelled to move, although security may not be the driving factor. Steve Yeager, vice president of information systems at WestAmerica Mortgage Co. in Oakbrook Terrace, Ill., says his company was in growth mode and

Windows' Big Turnoff

To reduce the attack surface area, Microsoft turned off some of the services in Windows Server 2003. Here are some of the more prominent features that are disabled by default:

- Alerter
- Distributed Link Tracking Server
- Indexing Service
- Internet Information Server
- Internet Connection Firewall
- Messenger
- .Net Framework Support Service
- NetMeeting Remote Desktop Sharing
- Remote Access Auto Connection Manager
- System Event Notification
- Task Scheduler
- Telnet
- Terminal Services Session Directory

THE LIST GOES ON

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needed to upgrade its aging NT servers. The new security features were simply a "side benefit," he says.

Gartner analyst John Pescatore views Windows Server 2003 as a major leap forward, and he estimates that, in the long run, it will have fewer critical security flaws than Windows 2000. He notes that Gartner originally advised clients to wait 18 months to deploy the new operating system but has now reduced that by six months.

Some organizations may want to wait for security improvements that are on the way. Ballmer recently outlined new technologies that will help to lock the memory so worms and exploits can't write into "bad pieces of memory after a buffer overrun problem." New perimeter inspection technologies and role-based security configurations are due in the second half of next year with the first service pack for Windows Server 2003.

"Microsoft has made some significant advances in the security of Server 2003," says Bryant, "but it still needs more work." Q **42985**

Computerworld's Jaikumar Vijayan contributed to this story.

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TECHNOLOGY

MOVING DATA TO THE MOUNTAIN

The idea of trucking records to a hidden, blastproof underground storage facility sounds so very 1950s, but increased regulation and electronic delivery systems have stoked the demand for Iron Mountain's off-site archiving services.

Banks Asked to Prepare Plans To Operate in Atomic Disaster

Bankers were asked yesterday to take immediate steps to help keep the nation's financial mechanism functioning in the event of a nuclear attack. John J. McCloy, chairman

THE DRIVE FROM the Pittsburgh airport to the secret underground facility winds through rolling Pennsylvania farmlands and woods, past quaint old churches and through tiny towns that time has overlooked. The access road to the site is unmarked, but written directions say to turn left just after a certain picnic shelter.

A guard stops the car and searches it. Satisfied that the visitors don't have weapons, cameras or tape recorders, he advises driving forward to the next checkpoint and honking the horn. There, at the mouth of an old limestone mine, a massive metal gate grinds open, admitting the car to an underground guard post for more searches and interrogations.

Just when it seems that every conceivable security measure has been attended to, a guard hands the visitors a fire extinguisher and says it must be carried in their vehicle wherever it might travel in the 20 miles of tunnels that run through the mine.

One might reasonably assume that this records-storage facility, owned by Boston-based Iron Mountain Inc., is just miles of tape racks and filing cabinets. It is that, but it also houses a 130-acre underground city, where 1,900 people work for 110 companies and government agencies. It has its own data center, bus service, fire department and power plant, as well as a water system with a five-acre underground reservoir.

The facility is a vast catacomb 200 feet below the surface, where electric golf carts scurry among mostly unmarked rooms and vaults with climates tailored for the treasures they house — paper documents, digital magnetic media, microfilm, video and audio tapes, photographs, original prints of Hollywood films, human tissue samples and things Iron Mountain won't tell you about. The exact location of this, the largest underground storage facility in the world, is revealed only on a need-to-know basis.

Digging at the mine began in 1902. It produced limestone for U.S. Steel Corp.'s nearby mills until it was abandoned in 1950. Four years later, a company Iron Mountain later acquired converted it into an atomic bomb shelter for customers' vital records and, if necessary, customers' executives.
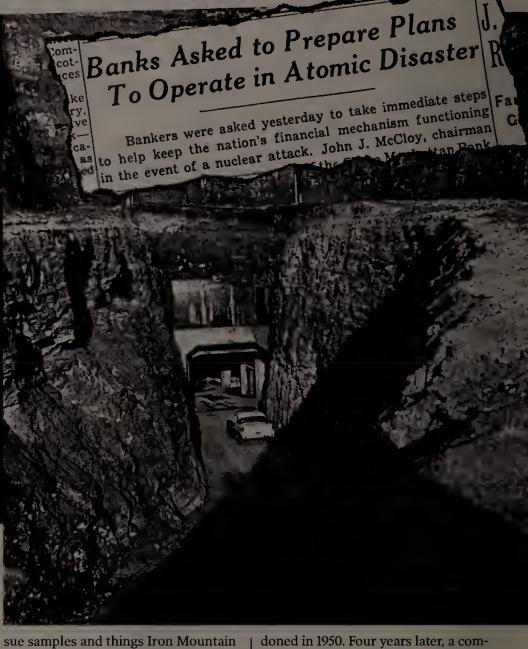
Over the ensuing decades, Hollywood studios sent their precious original films there for long-term storage, federal agencies sent sensitive records and the people who created them there for secrecy and safety, and corporations sent their vital paper records there for archiving. Not much changed over those years.

New Rules

Then came the scandals on Wall Street — at Enron, Arthur Andersen, WorldCom and dozens of other companies. Congress, the U.S. Securities and Exchange Commission and the stock exchanges reacted with a raft of new record-keeping and archiving rules and regulations, while employees, shareholders and customers unleashed a torrent of litigation.

Even in situations where no legal requirement for archiving exists, judges in corporate governance lawsuits are demanding backup files of electronic

Paper records and magnetic media no longer have to be trucked into Iron Mountain's underground facility. Now, digital archives can be sent and retrieved electronically.

Customer site

ABOVE GROUND

E-mail

E-commerce transactions

$

Electronic statements

Web content

Scanned or electronic documents

Data

Iron Mountain Web interface

Internet VPN or private WAN link

Internet

Iron Mountain facility

Storage

Archive

Archive

Iron Mountain data center

In the 1950s, a Pennsylvania mine served as a bomb shelter for companies' executives and records.

Today, a data center in the former mine receives archival records over the Internet.

PHOTOS COURTESY OF IRON MOUNTAIN INC.

RECORDS MANAGEMENT:
A NEGLECTED DISCIPLINE

TRADITIONALLY, organizations have thought of records management as the cataloging and storage of inactive paper records. They may have document management systems, where the emphasis is on author collaboration, document creation and publishing. But the fine points of archiving methods, retention schedules, physical storage, security, retrieval methods and so on are often neglected or handled on an ad hoc basis.

Issues surrounding the retention of electronic messages, which companies typically haven't considered archivable records, can be especially troublesome.

It's difficult and expensive to selectively retrieve e-mails from tapes because the files aren't indexed, says Margaret Rimmler, a vice president at records-storage company Iron Mountain. And it's dangerous to keep too much information. "So a company has five years of backup tapes, and . . . they think they have this great records management program. But you know what? Those backup tapes are still discoverable, and they have everything on them," she says. Keep records management and disaster recovery separate, Rimmler advises. "You set up your good records management program for e-records, then you set up your backup tape rotation to be just for disaster recovery. Don't let the tapes just hang around like a lot of IT people do; put them on a 30-day rotation."

Commercial ERP and CRM systems typically don't have records management and archiving capabilities that meet regulatory requirements,

Rimmler says. Until they do, she says, users will need add-on products such as IBM's Content Manager and Records Manager, FileNet Corp.'s Records Manager or Records Manager from the Documentum Inc. unit of EMC Corp.

Many of the pitfalls associated with digital records management and archiving can be avoided by outsourcing the job to companies such as Iron Mountain, Recall Corp. or Zantaz Inc., says Patrick Gordon, a principal consultant at Compliant Systems Consulting LLC in Medfield, Mass. "The benefit is there's a whole infrastructure you don't have to deal with," he says. But, Gordon warns, "you still have fiduciary responsibility for that information. You . . . are giving up some control and taking on another level of risk when you outsource."

Deciding what to save is complicated by the fact that any given file, such as a word processing document, usually exists in six or seven places in a company's IT systems, says Alan Pelz-Sharpe, an analyst at Ovum. Moreover, companies lack the tools – and sometimes the will – to classify files as official business records to be archived or "garbage" that should be deleted as soon as possible.

But the biggest records management challenge of all, according to Pelz-Sharpe, is this: "Nobody wants to do that work. It's boring, and there's no ROI. You have CIOs and CFOs saying, 'Well, I guess we have to do this because it's the law,' but there's absolutely no enthusiasm for it."

– Gary H. Anthes

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records, most notably e-mail messages. Companies that can't produce them often settle the suits on unfavorable terms and sometimes pay stiff fines.

In response to the resulting surge in demand for safe and secure digital records storage, Iron Mountain earlier this year opened a 5,000-sq.-ft. data center inside its secret underground facility. The data center includes 24TB of storage capacity and the equivalent of 1,586 T1 communication lines connecting it to the world above.

The $1.5 billion company also rolled out a digital records archiving service that customers can use to send the Pennsylvania facility document scans, e-mail and instant messages, financial records, Web content, images and anything else that can be put into digital form.

So what was first a limestone mine and then a facility where companies shipped paper records and magnetic media to protect them from atomic blasts has been transformed once again, this time into a place where companies can send and retrieve their digital archives over private WAN links or through the Internet, bypassing the guards and the big steel gate.

An IT vice president at a large New York brokerage, who asked not to be named, says his company sends Iron Mountain some 2 million e-mails and instant messages per week. The mes-

sages flow continuously over two dedicated lines — one to a data center in Boston, the other to the Pennsylvania facility. The company has also set up an encrypted virtual private network (VPN) over the Internet as an emergency backup channel.

The IT manager says Iron Mountain writes two copies of the brokerage's message traffic to nonerasable WORM (write once, read many) media, in accordance with a new SEC requirement. He says outsourcing the job met the company's four goals: fast implementation, distributed user access to archived messages, good audit trails on user access and compliance with federal regulations.

Outsourcing message archiving was also attractive because it would have been too time-consuming and expensive to set up the WORM infrastructure in-house and provide two separate physical facilities for media storage, the manager says.

But he acknowledges that the arrangement carries with it some worries. "You are entrusting very sensitive data to an external vendor, so that's always a concern," he says.

Digital records archiving is a logical function to outsource, says Alan Pelz-Sharpe, an analyst at the Boston office of Ovum Inc., an IT research firm. But even a company that specializes in archiving and uses state-of-the-art

technology can't address problems that occur before records can be captured by a records management system. "Typically, the business processes are not in place, and some of the data is in paper, some is electronic, some is in attachments to e-mail, and guess what? They have no idea which is which and where it is," he says.

The Digital Archive

In Iron Mountain's system, a front-end processor running at its data center takes incoming records and applies customer-supplied business rules that specify retention periods, adds tags to aid in information auditing and retrieval, applies digital fingerprints and provides other records management and security functions. It writes the records to disk and later to tape, while creating a searchable index that's accessible by the customer via a Web browser (see diagram). Destruction of records can occur automatically, based on customer-supplied rules, or by customer command.

The Digital Archive service, which costs about $12 per month per gigabyte, is a remote records management system that applies file-level logic and accessibility to information for compliance and other purposes. Iron Mountain offers a remote service called Electronic Vaulting for off-site bulk data protection for disaster recovery.

For whatever purpose — disaster recovery, legal compliance or simply preserving corporate history — Iron Mountain's old mine will receive more and more of its inventory electronically, says the IT vice president at the New York brokerage. His firm is likely to move in that direction as it begins to bypass paper entirely. "Records will be digital to start with," the IT manager says. "It will be a natural progression over time." **○ 43003**

THE NEW RULES OF STORAGE

Laws such as HIPAA and the Sarbanes-Oxley Act are forcing IT managers to re-examine their storage infrastructures:

○ QuickLink 42525
www.computerworld.com

The New Internet

Researchers are building a new Net, one layer at a time. By Lucas Mearian

RESEARCHERS developing the next incarnation of the Internet say it will be faster, more reliable and more secure. Moreover, it will be self-aware and able to determine the best way to deliver data and services.

The most prominent next-generation Internet project is PlanetLab, a research testbed that's been in existence for about a year and a half. It consists of 160 servers hosted at 65 sites in 16 countries. The goal is for Planet-Lab to grow to 1,000 widely distributed server nodes that connect into the majority of the current Internet's regional and long-haul backbones.

"It's a playground for new services. Depending on which service you're most excited about, that's what PlanetLab will look like," says Frans Kaashoek, a professor of computer science and engineering at MIT, a PlanetLab developer.

Kaashoek and other scientists are developing architectures that will automatically distribute data to multiple points around the globe in order to speed delivery and will have multiple network paths to ensure that data gets to its destination. The network will read data requests and direct them to the servers closest to the point of origination to fulfill the requests.

The challenge for scientists is to put intelligence into the network itself so it can understand the information that's being transported across thousands of servers and millions of miles of cable.

PlanetLab, which is up and running for the research community, is a joint project being led by Intel Corp. and about 70 university scientists around the world.

Just as the Internet was an overlay network on top of the telephone network, PlanetLab provides for an additional layer on top of the Internet. In turn, services such as streaming media, peer-to-peer file sharing and video-conferencing will be layered on top of PlanetLab.

One network layer atop PlanetLab is IRIS, or the Infrastructure for Resilient Internet Systems. IRIS promises to speed up searches and information transfers by using a self-organizing, peer-to-peer overlay network to position data closer to end users and thwart denial-of-service attacks by balancing loads among Web servers.

John Kubiatowicz, an associate professor at the University of California, Berkeley, says IRIS is a radical departure from the client/server model and application-specific environment of today's Internet because of its ability to spread data and rebuild it using sophisticated algorithms.

Kubiatowicz is also working on another layer to ride on top of PlanetLab, called Ocean-Store, which is a utility-type service for storing data across millions of servers.

Backup Plan

In OceanStore, Internet service providers and others would be paid to act as repositories for the world's information, which would be kept as multiple copies, protected by encryption and automatically rebuilt should any single storage point fail.

"If you think about the classic problem with archival storage, data resides on tape in some basement, and 10 years later you can't read the tape," Kubiatowicz says.

"The only way data can be preserved over the long haul is if it's separated from the physical media it's originally stored on. That means the places where it is stored must change over time," he explains.

OceanStore's software does that by breaking data into many tiny, encrypted parts and moving them across a vast array of Web servers that can be driven by policy engines to resave or move data to different formats over time.

"You'd pay a monthly fee to a company to provide a storage service, and in turn, that data would be kept secure for hundreds of years, protected via encryption, and it could be accessed from anywhere in the world quickly because it would be cached locally," Kubiatowicz says. "Basically, you'd be able to plug into the wall and get storage."

Kubiatowicz says companies could use OceanStore for routing data in-house to servers across their entire infrastructures for greater redundancy and resiliency.

Netbait is another layer running on the PlanetLab testbed. Like a doctor tracking a new virus in the body in order to discover how to fight it, Netbait will be able to track worms and viruses as they appear and watch how they propagate, developing profiles to help stop them in their tracks.

"It'll look at the way [a virus] is trying to penetrate a Web site. That would allow you to have an early warning of worm or virus behavior, allowing for faster diagnostic analysis and the ability to warn people about how to protect themselves from it," says Kevin Teixeira, a spokesman in Intel's research division.

While scientists are currently using PlanetLab to disseminate research information, one of the most promising aspects of the network for everyday users is its ability to provide multiple copies of data or video on servers throughout the world, closer to those requesting it.

"There are more servers and more clever algorithms that know how to send data to the closest computer and cache it there," Kaashoek says.

The new Internet will unfold over many years, he says.

"Just as the telephone [network] emerged, this overlay of intelligent networks will grow and populate, and there'll be certain versions of it that people will eventually standardize on," Kaashoek says. "In an evolutionary way, the Internet will upgrade itself over time."

↻ 43089

PlanetLab's Layers

Repair or NetHealth: Software that enables Web servers and routers to repair themselves.

CoDeeN: A content distribution network that automatically spreads data across the Internet.

ScriptRoute: A programmable network measurement service.

Netbait: A worm detection and tracking service.

OceanStore: A storage utility that stores multiple copies of documents across millions of Internet servers.

IRIS: A self-organizing, peer-to-peer overlay network to position data closer to end users.

The PlanetLab Map

50KBp
50KBp
10KBp
5kBps
1kBp

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Single Sign-on Effort Falls Short

With no input from IT security, a system is adopted that leaves out some apps and creates headaches. By Mathias Thurman

SECURITY MANAGER'S JOURNAL 🔒

JUST WHEN I THOUGHT we had solved one set of IT security problems by getting the human resources department to properly train new hires, another has cropped up with our IT team and a new single sign-on system it has deployed. The system was designed without input from the IT security team and at least one other department that will be affected. Now we're dealing with the issues after the fact.

The single sign-on project addresses a significant problem. There are several ways for employees to log into different parts of our IT infrastructure, and each requires entering a separate set of credentials.

The single sign-on system will make life easier for users, giving them access to a broad set of applications and services with just one user ID and password.

The IT group has been talking about this for some time, but several obstacles have kept the project sidelined until now. The biggest was the fact that we bought Novell Inc.'s eDirectory directory services and iChain identity management software to handle the authentication of our People-Soft system.

But we also deployed Windows 2000, which uses Active Directory for authentication, and our Exchange server uses yet another directory structure.

Unfortunately, these infrastructures were designed separately, with no common vision, so there's a lot of duplication. To make matters worse, none of these directories were mirrored in anticipation of a catastrophe. Sure, we backed up the data, but we didn't have another system on standby to take over the authentication process in the event of a hardware failure.

This week, the IT group and I finally began migrating users to a single authentication system based on eDirectory that's fully mirrored, clustered and load-balanced.

We mirror the data to another data center, so in the event of a fire, malicious damage or other event, the alternate data center will automatically begin accepting authentication requests.

The No-Name Log-in

This new system makes logging in very convenient, except for one problem. Instead of logging in with our traditional usernames (we used a naming convention that closely matches each employee's actual name), we're using

> **"** Identifying the users requires matching the IDs to the users' names. It will be an annoyance and take a lot of time.

employee ID numbers.

Personally, I didn't even recall that I had an employee ID, much less remember the number itself. Until now, our IDs had been used only by the HR and finance departments for personnel tracking, so I was surprised when I received an e-mail stating that I must start using mine. Like other employees, I was given a week's advance notice and informed that I would also have to change my password.

The decision to use our employee ID numbers in this way has implications for the IT security team. It will end up creating more work for my group and some other groups, such as the IT help desk. Here's why: In our case, most of the audit and security software we use lets us view users by name. Because our log-in names are based on the users' real names, we can quickly match the person to the event when there's a problem.

With the new system, all we see is a number. Identifying the users requires the extra step of matching the IDs to the users' names. Given the frequency with which we'll need to do that, it will be an annoyance and take a lot of time.

Neither the IT security group nor the IT help desk was included in the decision-making during the design of the single sign-on system. Had we been involved, both groups would have voiced strong arguments against using employee IDs for this purpose.

While I don't yet know why the decision was made, I would certainly agree that there is a sense of anonymity in using numbers. Perhaps that was the driving factor.

So far, the problem isn't so bad, because only a few hundred people have been converted to the new system. But soon the entire company will be using it.

Not-So-Single Sign-on

There's another problem with the new system: It's not inclusive of all our applications. For example, our software developers use a content versioning application that tracks changes in software under development. There are also a dozen or so external development sites, several of which are outside of the U.S., that use this system. To configure this application to use single sign-on would be a nightmare.

Also, the sales department uses CRM tools. Since the information this system contains is highly confidential, the IT team decided not to incorporate the sign-on for it in the enterprise directory.

Within the security department, we have RSA SecurID servers configured to authenticate systems and network administrators to resources within the infrastructure. It would be nice if we could tie that whole system into the enterprise single sign-on application, but we would have too much to lose if there was a security breach.

We use SecurID for access to our most critical systems, which are responsible for our revenue and corporate image. But for now, we are going to keep all of these specialized environments separate from the environment that caters to the mass employee populace.

So, what's the lesson learned here? It's that even as my company and others throw around the term *single sign-on*, it's rare that an organization of our size can institute a true single sign-on environment that works for all applications enterprisewide. ▶

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: **QuickLink a1590**

To find a complete archive of our Security Manager's Journals, go online to ◎ computerworld.com/secjournal

Radware Releases Security Switch

Radware Inc. in Mahwah, N.J., last week announced the release of DefensePro, a high-performance security switch that's designed to handle multigigabit security switching, intrusion prevention and denial-of-service protection. DefensePro is available now. Pricing starts at $25,000.

Mirapoint Updates Message Server

Mirapoint Inc. is releasing a new version of its Message Server e-mail appliance, called the 45-Series, and a new Message Director MD450 security appliance. Updates include replacing Intel Pentium III chips with more powerful Xeon processors, according to Sunnyvale, Calif.-based Mirapoint. The Message Server line begins at $15,000, while pricing for Message Director starts at $25,000.

Beta for Speech Server Released

Microsoft Corp. last week released the second beta version of its Speech Server. The new beta can run multiple applications and adds support for Peabody, Mass.-based ScanSoft Inc.'s Speechify Text-to-Speech Engine 3.0. Also, Microsoft released the fourth beta version of its Speech Application Software Development Kit. The final versions of Speech Server and its accompanying software development kit are due in the first half of next year.

Proxim Offers Free Wireless Upgrades

Proxim Corp. this week will release free firmware upgrades for its enterprise-class wireless LAN access points. The upgrades will make it easier for IT managers to detect rogue access points and to centrally control power levels of access points, according to Sunnyvale, Calif.-based Proxim.

TOMMY PETERSON

Make Your List, Check It Twice

AS THE YEAR DRAWS to a close, we find ourselves surrounded by the festive traditions of the season. Jolly old elves and prancing reindeer have been trucked in and deposited on the manicured lawns of corporate headquarters and bask in the glow of the lights proclaiming "Season's Greetings" to passing motorists. Miniature trees and plastic candles twinkle cheerfully in corners of offices and cubicles. There are way too many sweets everywhere.

Grown men and women in IT shops are making wish lists and formulating their justifications for having those wishes fulfilled. Of course, since they're preparing their pitches for the business side of the company instead of for a short, white-bearded guy with a body mass index of 35, their arguments rest on productivity and ROI rather than on whether the geeks have been naughty or nice.

Those lists CIOs and other high-level IT managers make of their spending priorities for the year ahead will be checked more than twice as their companies navigate into and through 2004. Toys for techies are gone from enterprise IT budgets, but technology investment is essential if companies are to move ahead or even keep up with the competition. In these budget confrontations, however, discretion is often the better part of valor. Below are my picks for the technology areas that IT managers should focus on for now if they want to avoid duking it out with their CFOs — and probably losing.

■ **Storage, especially storage management.** Storage falls a little short in the glamour department, but in an information economy, companies must have somewhere to keep and some way to manage all that information. Adding to the pressure is the growing array of state and federal regulations requiring businesses to retain even more information. As the mounds of data grow, users demand easier access to stored data and flexibility in storage resources. Management systems and virtualization software come with hefty price tags. But no one would accuse an IT manager of going for the glitz for proposing them, and storage is central to almost any business.

Storage also includes the backup and disaster recovery technologies that ease the minds of everyone in the company fretting about terrorism, natural disasters and trees growing around power lines in Ohio.

■ **Security.** You won't have to fight for this one. Even through the past couple of years when the remnants of the technology bubble were unattractively splattered all over the economy, companies were spending on IT security. Antivirus software, intrusion detection and prevention systems and patch management systems are all essential investments — just make sure they are implemented along with well-crafted security policies and enforced best practices, which are as important as the technology.

Identity and access management systems that include provisioning and strengthened authentication mechanisms can increase productivity along with security in your organization.

■ **Business intelligence and data warehousing.** Carefully chosen and deployed business intelligence systems do the magic trick at the heart of IT: They change amorphous piles of data into useful information and open an avenue to insights that can transform a business. Just be wary of the seemingly endless varieties of software that offer "real-time" monitoring of every peristaltic burble and hiccup in the enterprise, to no apparent business end.

■ **Middleware and other integration technologies.** Heterogeneous IT environments are a fact of life — even a blessing, say some. Companies that want to continue getting value from their legacy systems as they add new systems and applications will need the technology to link them together.

I fear that this list is the IT equivalent of the socks and underwear your mother always gives you. But these are the essential technologies, the ones in which your company can't afford to fall behind. This isn't the year to ask for the pony.

The adoption of wireless is inevitable, and the technology has already penetrated to the center of some industries, but for most businesses, it's still a novelty.

I'm convinced that Web services will eventually transform IT, but the technology still operates at the margins, maybe because the standards stack is still in flux. Or perhaps because infrastructure-level Web services are just beginning to receive attention.

Certainly take a hard look at open-source options when you're shopping for technology.

Keep an eye on voice over IP, the return of CRM, and new search and text-mining technologies that will help you take a crack at squeezing some intelligence out of all that unstructured data piling up in your company.

And be patient. There's a good chance the economy will be stronger a year from now. The technologies will mature and improve. Maybe it will be time for the pony — or at least the latest version of PlayStation. ✪ **43260**

A brain drain is coming when the economy improves, and your top IT talent may be headed out the door.
By Kathleen Melymuka

Already Gone

ALF YOUR IT MIDDLE managers may be planning to quit as soon as the economy improves. Recent surveys and anecdotal evidence indicate that many have already checked out psychologically and are just waiting for the chance to move on. If you don't prepare for this exodus, when the money loosens up and IT initiatives begin to flow, you may find that you lack the talent to deliver.

The impending IT brain drain is "one of the dark secrets of the industry right now," says Vaughan Merlyn, an analyst at The Concours Group in Kingwood, Texas. "Wherever I go, the grumbling amazes me. I see it all the time."

"People tell me awful tales about working, and their loyalty is shot," adds Tom DeMarco, a consultant at Cutter Consortium in Arlington, Mass., and author of *Slack: Getting Past Burnout, Busywork and the Myth of Total Efficiency* (Broadway Books, 2002). "The problem is that they're all liable to leave at the same time."

A July 2003 survey of 509 U.S. middle managers by Accenture Ltd. found that 38% are currently looking for another job and 10% plan to go job hunting when the economy improves. Though the survey didn't focus exclusively on IT, Ed Jensen, a partner in the human performance practice at Accenture, says IT managers at various client sites have told him they're essentially already gone.

Late last year, another survey, by Spherion Corp. in Fort Lauderdale, Fla., and Harris Interactive Inc. in Rochester, N.Y., questioned 3,278 U.S. workers and found that 51% want to leave their current jobs (up from 33% in 1999). The dissatisfaction is even more pronounced in IT, where 40% of workers reported poor or fair job satisfaction compared with 28% of the total sample.

"There's a large amount of dissatisfaction out there," says Scot Melland, CEO of Dice Inc., a Web-based recruiting firm in New York. "Some of it might be fair and some a reaction to how the world has changed, but it's real."

A Seismic Shift

Job changing after an economic upheaval isn't unusual, but observers say recent history and a seismic demographic shift will make the coming phenomenon worse than in the past, especially in IT, where budgets have been axed particularly hard. "Many IT people were downsized, and those who remained find themselves literally overwhelmed," Merlyn explains.

"People are feeling used," DeMarco agrees, adding that baby boomers remember similar treatment dur-

GARY TAXALI

Traditional vs. Emergent Workers

The "emergent" worker crosses all boundaries of age, education, industry and company size, but IT workers are among the most emergent, according to Spherion. Here's how emergent workers differ from traditional employees:

Traditional employee

- Commits for the long term.
- Wants employer to provide the career path.
- Concerned with security, stability and clear direction.
- Wants rewards based on seniority.
- Thinks changing jobs can damage career.
- Defines loyalty as longevity.

Emergent employee

- Commits to perform now.
- Wants responsibility for career path.
- Concerned with opportunities for learning and growth.
- Wants rewards based on performance.
- Thinks changing jobs can enhance career.
- Defines loyalty in terms of work contribution.

ing the downsizings of the early '90s, and many Gen Xers saw their parents laid off in those days. "So any loyalty they might feel is complicated by the fact their parents were screwed," he says.

As a result, Gen Xers came to IT expecting to work for many companies over the course of their careers. "They're much more open to saying, 'If I can't get it here, I'll find it elsewhere,' " Jensen says. "It's a different mind-set — a free-agent mind-set."

Since that ability to move has been curtailed by the tight job market, there's a pent-up desire for change, even among those with few complaints, Merlyn says.

The Emerging Workforce Study conducted by Harris and Spherion, which has measured changes in workforce attitudes since 1997, has documented a significant shift. As late as 1997, 34% of workers surveyed still held "traditional" values that emphasize long-term company loyalty (see sidebar above). This year, only 21% did, and in IT, only 9%. The rest held "emergent" or free-agent values, or were migrating in that direction.

Despite this shift, Spherion estimates that more than half of U.S. companies still use traditional management styles and as a result are in danger of losing their emergent workers at an even higher rate.

Replacing IT workers who leave won't be as easy as it looks, DeMarco says. "The buffer of unemployed IT people could be hired up in the first two or three months," he notes, "and workers in IT are not fungible." Those available are disproportionately generalists without the skills you'll be looking for, he says.

Besides, you'll need to do more than replace; you'll need to grow.

The U.S. Bureau of Labor Statistics forecasts that the top five fastest-growing job categories through 2010 are all in IT: software applications engineer, support specialist, systems software engineer, network and systems administrator, and network systems and data communications analyst.

Meanwhile, the vanguard of baby boomers will soon be reaching retirement age, and the numbers to

replace them just aren't there. According to Harvard University economist David T. Ellwood, from 1980 to 2000, the "prime-age" workforce — 25 to 54 — grew by 54%. Over the next 20 years, it will grow by only 3%.

"We're in the middle of a major demographic shift," says Jensen. "It's one thing to say people are turning over, but the pool of talent that is available to replace them is tight, and that will drive the price up."

In fact, the cost per hire has increased nearly 71% since 1998, according to the Saratoga Institute Inc., a Santa Clara, Calif.-based human resources unit of Pricewaterhouse-Coopers. Spherion estimates that the cost of replacing lost emergent workers could be about $1 million for an IT group of 100. And that's assuming you can replace those who leave.

Given all these impending pressures, the postrecovery decampment will be happening at the worst possible time. "The problems that arise are myriad: the loss of knowledge in the organization, managing the workload, disruption as people leave and the expense of replacement," Jensen says.

Heading Off the Exodus

Despite the convergence of risk factors, some IT managers may be blindsided by the exodus because when jobs are scarce, people don't complain. "People might grumble around the cooler with colleagues, but they probably don't grumble upwards," Merlyn says. "You keep your head down and lay low."

But there are things you can do to assess and mitigate your risk.

- **Look for signs of unhappiness,** and draw managers out on how people are feeling.
- **Check confidential employee surveys** for signs that IT employee engagement has gone down. "That could be a leading indicator that people may move on when things turn around," Merlyn says.
- **If you can't survey the entire IT workforce, try to conduct spot surveys on one or two issues,** or put a few questions on an employee portal to identify segments of your IT organization that are particularly disenchant-

ed, Jensen says. "Then you can take more targeted steps to deal with the [potential] loss of key people."

- **Communicate candidly with the workforce.** "Employees understand and can handle the fact that the economy is tough," Jensen says. "They want to feel part of the process and understand why decisions are being made."
- **Cancel overtime.** "Constant overtime is a deadly cause of burnout and the sense of being used," DeMarco says.
- **Hire now.** "You have to be ahead of the curve in the staffing work that's going to have to be done," DeMarco says. By taking extra work off people, you may change their minds about leaving. Even if they do leave, each person you hire now is one you won't have to hire later in a tougher, more expensive market.
- **Know your "A" players,** and make sure you're doing everything you can to keep them happy, Merlyn says.
- **Get your people focused** on the future.

Even with a limited budget, you can generate excitement and optimism, Merlyn says. Engage your "A" players in rethinking the vision and strategy, repositioning the team, upgrading skills and adjusting roles. If your company has been laying off people and just shifting the work to others, you may find redundancies that can be eliminated to take the pressure off and move the survivors on to higher-value activities.

Even if you're not able to move ahead on a growth agenda yet, he says, strategizing and planning "feels constructive, and it gets people engaged in thinking about an optimistic future rather than a pessimistic present." ◔ 43001

Melymuka is a Computerworld contributing writer. She can be reached at kmelymuka@yahoo.com.

DISGRUNTLED WORKERS

Computerworld's 2003 Job Satisfaction Survey showed that there isn't much job satisfaction in IT. For the complete results, visit our Web site:

◔ QuickLink a3810
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Warning Signs

Computerworld's 2003 Job Satisfaction Survey uncovered the kind of grumbling that will lead to an IT brain drain.

42% said they're dissatisfied with their companies.

56% reported that their level of satisfaction with their companies has decreased compared with one year ago.

69% don't think they're working to their full potential.

55% said they're dissatisfied with their opportunities for advancement.

82% reported finding their work stressful.

59% reported being more stressed out than they were a year ago.

50% disagreed with the statement, "My employer is successful at building employee loyalty."

Base: 936 respondents (IT workers, managers, consultants and contractors)

SOURCE: COMPUTERWORLD'S 2003 JOB SATISFACTION SURVEY

THE PROS & CONS OF CMM

Outsourcers tout their Capability Maturity Model ratings, but they may be overkill for some clients. BY JULIA KING

WHAT'S IN A CMM RATING?

Does hiring a CMM Level 5 service provider guarantee that an outsourced software project will come in on time and on budget?

Will a higher CMM rating automatically mean higher costs?

What impact does earning a rating have on software quality?

These are just a few of the questions confronting IT managers charged with contracting out an increasing volume of application development and maintenance work to lower-cost offshore outsourcers.

Developed by the Software Engineering Institute (SEI) at Carnegie Mellon University in Pittsburgh, CMM

-— short for Capability Maturity Model — is a set of rigorous standards for software development that's based on five levels. Of some 70 companies worldwide that have publicly acknowledged reaching the highest rating of Level 5, about 50 are in India, according to the SEI and Gartner Inc.

Not surprisingly, these Indian outsourcers aggressively tout their CMM rating, marketing themselves as topnotch developers with standardized, repeatable processes in place for delivering the highest quality software. Executing standardized processes also works to keep down costs, enabling Level 5 providers to pass on additional savings to customers, according to

Sangita Singh, head of strategic marketing at Wipro Ltd., an Indian outsourcing company with U.S. headquarters in Santa Clara, Calif.

Research confirms that higher CMM levels correlate with fewer software defects (see chart below). But the highest CMM rating doesn't necessarily guarantee the greatest savings for customers. "The data on quality and maturity levels shows there is a definite improvement in costs and [on-time project completion] schedules," says Bill Peterson, program director for software engineering process management at the SEI. "But whether the supplier passes the savings on to the buyer, we don't know. That's more business than anything to do with the logic of costs.

"What we are saying is that as a Level 5, [suppliers] are better and they're able to charge more, not less," Peterson adds.

At the same time, a Level 5 CMM rating comes with no guarantees, and in some cases, it may even be overkill, experts say.

"CMM is a great discipline, and it is a great designation to have," says Bart Perkins, a Computerworld columnist and managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps CIOs manage IT suppliers. "But the reality is that if an outsourcer is at Level 5 and the client is at Level 1 or 2, the client doesn't have the internal discipline to take advantage of the Level 5 provider's standardized routines."

Defining system or project requirements is a prime example. "With CMM, the entire requirements process is very rigidly defined. A Level 5 requirements document is very detailed and explicit and has metrics associated with it," Perkins explains. "But a company at a CMM Level 0 or 1 could have their requirements on the back of an envelope and no metrics. The Level 1 companies are lucky if they write out two pages."

The upshot, says Perkins, is that touting a CMM Level 5 rating to a Level 1 buyer "comes down to touting a feature that's of little value. It's like a car salesman in Alaska touting a car's great air conditioning. It may be great, but you can't take advantage of it."

Yet some companies, such as Farmers Insurance Group in Los Angeles, contract with Level 5 outsourcers exclusively, even though they may be unable to reap all of the benefits of doing so.

"The CIO dictated that we only do

business with CMM Level 5 partners. It was a way of distinguishing the best companies from the rest of the pack," explains Alan Stanley, a program manager at Farmers.

"Beyond that, we don't take advantage of CMM. We tend to dictate how we want work done. We allocate work and processes based on what we do here, so I don't think we've really benefited from the CMM Level 5 side," he adds.

Helen Cousins, former CIO at Parsippany, N.J.-based Cendant Corp., says she believes that hiring a Level 5 outsourcer is a way to raise the bar for your own IT organization. "One of the things we gained out of necessity is the ability to more clearly define what we want," says Cousins, who is now CIO at Dex Media Inc. in Denver. "I've also noticed that when people working side by side are with people who are disciplined, it starts rubbing off."
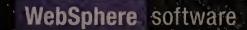
But in a January 2003 report on the subject, Gartner analyst Partha Iyengar cautioned that users should also remember that CMM standards are descriptive rather than prescriptive, meaning that "they describe what must be done, rather than how it must be done." Consequently, a vendor can specify a certain way of executing a process that isn't the best possible implementation of that particular process.

In other words, Iyengar says, "CMM standards certification in no way guarantees that a vendor's internal implementation of these standards is best-in-class in any way." **42492**

CMM Checklist

Questions to ask your outsourcer about its ratings under the Capability Maturity Model:

What was your last published assessment level?

When did that occur? (After two years, assessments are out of date, the SEI says.)

Who performed the lead assessment?

Who was on the assessment team?

What improvements have you made since the last assessment?

Higher CMM levels correlate with fewer software defects, according to this research:

CMM level	Average defects per function point	Percentage improvement (from previous level)	Cost savings per 100 function points, at U.S. labor rates	Cost savings per 100 function points, at offshore labor rates
1	0.750	–	–	–
2	0.620	17.33	$14,560	$6,240
3	0.475	23.34	$16,240	$6,960
4	0.228	52.00	$27,664	$11,856
5	0.100	56.00	$14,336	$6,144

SOURCE: GARTNER INC. AND THE SOFTWARE ENGINEERING INSTITUTE

Preventing P2P Abuse

Corporate IT managers trying to curb illegal peer-to-peer file downloads could learn from their counterparts on college campuses. **BY JULIA KING**

IM O'ROURKE, vice president for computer and information services at Temple University, makes it a point to ask students in the classes he teaches whether they swap peer-to-peer music and video files. He has yet to get no for an answer. With 33,000 network users, 5,000 of whom live on the Philadelphia campus, P2P file swapping has brought the university's network to its knees more than once, he says.

At the University of Florida, network services supervisor Rob Bird at one point last year recorded 3,500 simultaneous network connections to Kazaa, a popular P2P music site. That figure represents almost half of all students who reside on the Gainesville campus.

Colleges and universities are on the front line when it comes to combating the various computer security, copyright infringement and network overload problems that can result from users swapping massive P2P files. As a result, schools have been forced to come up with effective systems not only for detecting bandwidth hogs, but also for differentiating between legitimate and illegitimate P2P file transfers and pulling the plug on illegal activity. In several cases, their tools and tactics have resulted in a significant reduction in P2P headaches, making them well worth a close look by corporate IT managers, many of whom are facing the same problems.

Consider the University of Florida. Within an hour of implementing a homegrown network tool known as Icarus, network managers recorded an 86% drop in illegal P2P uploads to the Internet from the university's residence halls. Downloads dropped by 30%. School newspaper articles and the student handbook had also informed students about the university's downloading policies and the disciplinary actions that would be taken against violators.

Icarus, short for Integrated Computer Application for Recognizing User Services, collects and combines data from all of the university's many disparate network management systems. Once combined, the information can be analyzed in a comprehensive manner.

"We realized we had all of the [network monitoring and management] tools we needed. We just needed to find a way to use them all together," Bird explains. "By collecting data in one place, we're able to detect application usage in new and unusual ways."

How It Works

Whenever Icarus detects P2P activity on the network, the software sends a pop-up message to the offending user's computer. If the user is a first-time violator, he is automatically directed to an educational Web site that outlines the university's network usage policy and specific details on his particular violation.

Second-time offenders are immediately restricted to on-campus Internet usage for a period of five days. Third-time violators are cut off from all Internet connectivity beyond the campus and immediately referred to the university's judicial affairs office.

"We try to stick to campus restriction as the most severe punishment, to minimize the impact on academic use, because there's plenty of legitimate applications that need to be accessed by students," Bird says.

Since the start of the academic year in September, the system has uncovered 919 first-time offenders and only nine repeat offenders.

"It's been extraordinarily successful," Bird says, adding that the university plans to release the application as an open-source project in the spring.

Differentiating between legal and illegal P2P files can be difficult for network managers, since most colleges have policies against viewing the content of files. The University of Miami in Coral Gables, Fla., keeps it simple by limiting all students to a maximum of 48MB of dedicated bandwidth.

"We tell them to use it wisely to do whatever they have to do. That could be downloading images from medical journals, or videos related to school communications," notes CIO Lew Temares. It also could be swapping music files, Temares concedes, which is why the university has implemented two network filters that sniff file transfer protocols and eliminate those with the known characteristics of P2P files that the university has identified as illegal. These include sites like Kazaa and Blubster that are primarily for downloading music.

At Temple, administrators are considering going a step further and implementing a policy that would deny hardware and software support to students whose computers contain illegal P2P programs and files.
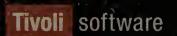
The university also recently purchased an enterprisewide license for Symantec Corp.'s Norton AntiVirus software, which all students are required to install on their computers before they can tie into the university's network.

"I don't really want to work on [a computer] it takes me six or seven hours to rebuild because it has all this junk on it," O'Rourke says. "The Welchia [worm] alone has cost me at least $400,000 in the last month just in time."

Chuck Linebaugh, director of information systems at Chicago law firm O'Hagan, Smith & Amundsen LLC, says corporate IT managers like him have somewhat more leverage over employees than university network managers may have over students. Linebaugh's firm locks out all P2P application programs and conducts weekly checks on all files for any illegal P2P activity.

Still, he keeps a close eye on the precautions that other IT managers, particularly university network managers, are taking on the P2P file-swapping front. One big reason, he notes, is self-preservation. "If we're investigated and files downloaded by users are on our network, we're liable for that," Linebaugh says. ○ **43111**

In a July 2003 study of peer-to-peer file sharing at 560 companies, Ottawa-based AssetMetrix Inc. found that employees at   of those companies had engaged in Web-based file sharing during the previous 14 months.

BART PERKINS

Behind the Eight Ball

THE SAFEST OUTSOURCING OPTION has been, and continues to be, the large U.S.-based operations such as IBM, Electronic Data Systems and Accenture. However, these big outsourcers are facing serious challenges and finding themselves behind the eight ball. Newer, smaller firms have changed the rules and are forcing the big guys to play catch-up. The new entrants are stealing business by offering dramatically lower prices, thus creating a price floor against which the big companies have to compete.

There are three main reasons for the price differential. First, the upstarts can undercut traditional outsourcers' prices because most of their technical staffs are located in lower-cost countries. The price difference is enormous, often as much as $180 per hour vs. $25 per hour. But beware. Quoted rates don't provide a true apples-to-apples comparison. Be sure to calculate the total cost of outsourcing, reflecting all the costs of managing an offshore outsourcer. Even after proper pricing adjustments, the difference is still huge.

Second, the administrative costs at the newer firms are much lower. They've designed their processes from the start so that as much administrative work as possible is performed offshore. For example, at one company, when expense reports are submitted, they're immediately scanned into a computer system and then sent overseas electronically. The originals and the receipts are filed domestically, as required by the IRS, but the review, approval and reimbursement processes take place offshore.

Third, the management structure at the new outsourcers also costs less, since a high percentage of their managers are based in the same countries as their technical staffs. The price differential is even greater in the executive ranks.

In all three cases, lower wages mean lower costs, and the new firms are willing to pass a large percentage of these savings on to their customers. Historically, the big outsourcers have resisted going offshore for similar savings in order to protect revenues and profits. Forced to do so now, the question is how quickly they can adopt some of the newer entrants' approaches and use more offshore labor. But there are complications.

If the big outsourcers use cheaper offshore technical staffs, they will have to share the savings they reap with their customers to remain competitive. The resistance to doing so isn't merely greed but fear of affecting the stock price, since lower billing rates result in lower revenues and earnings. It takes a lot more business to get the same revenues when average domestic billing rates are six or seven times the going rate for offshore work. In order to keep revenues stable, the big outsourcers must find a great deal more business to cover the gap. This is an enormous undertaking in today's economy.

In addition, they'll have to reduce their administrative costs, which will mean re-engineering many of their administrative processes. This is time-consuming and extremely expensive and presents yet another hit to the bottom line.

Plus, they'll have to address their high-cost management structures. In order to reduce management costs, big outsourcers could conceivably lay off high-level executives. Moreover, if growth stalls, they won't be able to dangle the carrot of promotions in front of top-notch staff members. The impact of this will be delayed, but significant.
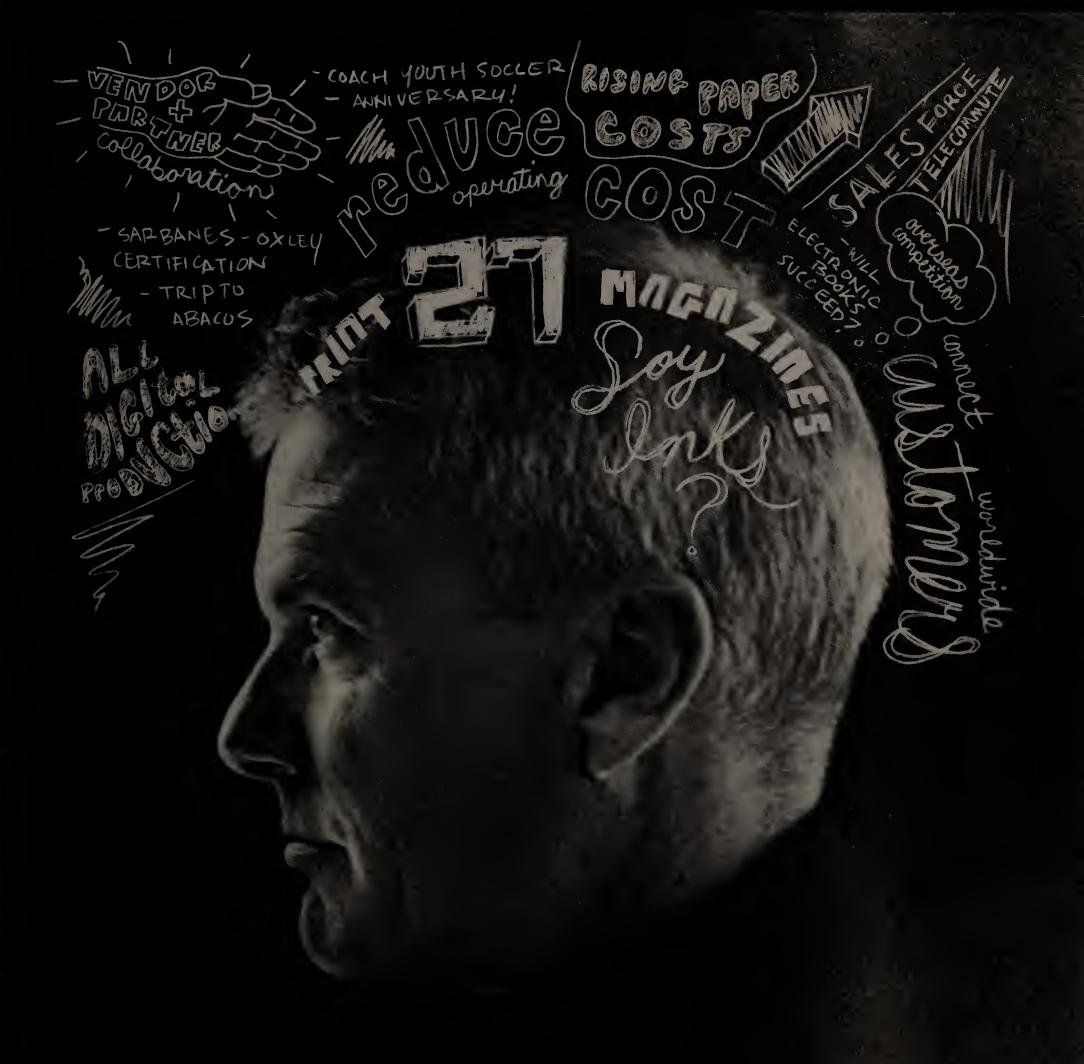
Exactly how all of this will play out is unclear. Over the past few years, all of the big outsourcers have quietly begun to hire — and invest — in India, China and other lower-cost countries. Unless stopped by legislation or political unrest, they'll continue to expand their offshore staffs.

Each major outsourcer will likely address the resulting problems differently, but any solution is likely to create a great deal of internal turmoil. Some U.S.-based outsourcing units will probably spin off from their mother companies, deciding they're better off without corporate overhead and corporate angst. The boutique firms they create will provide further competition. Meanwhile, watch the big players for restructurings, reorganizations and fluctuating stock prices.

Buyers who are currently using or negotiating with the traditional outsourcers may want to keep contract lengths reasonably short and build in flexible pricing terms. This will allow buyers to take advantage of future price drops as competition intensifies. ○ **42972**

Advertising Supplement

IT Careers: Projected Hiring Surge Drives Online Learning

While no one expects a replay of the hiring craze of 1999 and 2000, most business leaders are forecasting an increase in hiring for technology workers in 2004. The surge will demand a cross between sophisticated technical skills and business intelligence, according to staffing and professional development leaders.

There are two very different needs in terms of ongoing learning. The first is business knowledge and expertise, which most universities are poised to provide. Suzanne Gordon, vice president of information technology at SAS Institute, says that in research and development and consulting, employees need advanced degrees in computer science, statistics or operations research. There also is a need for the cross section of business know-how with technology – such as combining an information technology or computer science degree with in-depth knowledge of economics, financial services or the healthcare industry. Again, schools and universities are best poised to provide the advanced study that a technical professional needs to lead development and implementation of projects that respond to a specific business problem.

The second area of study focuses on technology, but with the add-on of understanding people. "I would tell them to take courses and focus attention on hardcore computer science," says John Vlastelica, director of recruiting programs for Amazon.com. "We tell engineers to learn to view technology not as an end in itself, but as a means to an end, which in our case is delighting customers."

Gordon agrees, saying that her IT employees tend to be life-long learners. "We hire people who love to learn technology. They do that through our in-house training, but also by learning on their own. These new technologies aren't usually available through universities."

That's where online resources become important. Scores of companies and institutions are providing certification for a wide range of skills, from .Net to Java to XML. Hiring and management leaders also want employees to gain certifications in such areas as technology management, project management and security.

"Education is just one piece," stresses SAS's Gordon. "Some people have an innate ability to manage projects and people. Others need to learn." That's why she includes leadership in her list of learning priorities — bringing diverse people together to discuss a common situation or business problem, understanding the situation from a variety of angles, and then translating this into requirements that enable users and highly technical developers.

For more information about IT Careers advertising, please contact: Nancy Percival
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Dan Gillmor, Paul Glen, Thornton A. May,
David Moschella, Bart Perkins,
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CONTRIBUTING WRITERS

**Mary Brandel, Russell Kay, Sami Lais,
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Microsoft Loosens Policy On Intellectual Property

Says anything in its portfolio could be available for licensing

BY STACY COWLEY

MICROSOFT CORP. last week unveiled a new technology-licensing policy that it said signals its commitment to working with other vendors on intellectual property swaps and is intended to drive interoperability and innovation.

Microsoft will create licensing programs to offer access to a broad range of its intellectual property, including copyrights, trademarks, file formats and schema, software technology, and Microsoft-developed standards specifications. The company also introduced programs offering technology and patent licenses for its ClearType technology for improving the readability of text on LCDs, and for its FAT (File Allocation Table) file-system storage format.

Some of the licensing programs will be royalty-free, like the Office XML schemas Microsoft began offering developers last month, executives said. Others, like its ClearType and FAT programs, will carry fees.

Microsoft's new licensing approach is unrelated to its antitrust settlement agreement with the U.S. Department of Justice and its ongoing skirmish over the same issue with the European Commission, according to Brad Smith, the company's general counsel. "We felt it was important to take this step, based on our strong dialogues with a number of other companies in our industry," Smith said.

Joe Wilcox, a Washington-based Jupiter Research analyst, called the new policy an "important first step" for Microsoft, as the industry's most notorious proponent of proprietary technology edges toward a more open approach to product development.

"Traditionally, Microsoft has been very guarded about its [intellectual property]. Its approach has been to try to differentiate itself from others with [it]," he said. "I think what you're really seeing here as much as anything is evidence of the changes going on within Microsoft."

Anything in Microsoft's portfolio is potentially available for licensing, Smith said. "Access to and exchange of intellectual property is really essential to the continued growth and development of the broader IT industry," he said. "Microsoft is committed to licensing its intellectual property on clear, commercially reasonable terms based on industry norms."

Windows APIs in Demand

Although Microsoft owns a vast array of intellectual property, the technologies other developers most often clamor for are those associated with its Windows operating system and Office applications suite. Microsoft allows limited access to information on those products' underpinnings through initiatives such as its tightly controlled shared-source program. Executives were guarded about how extensively the company might consider expanding its Windows- and Office-related licensing.

"We're aware of the API issue," said David Kaefer, Microsoft's director of business strategy for intellectual property. "We'd like to improve information about the APIs that are already available, and then we need to see what people say. Clearly, to the extent that people are still asking questions about them, there's interest."

Microsoft has been working for nearly a year on developing a clearer intellectual property policy, Smith said, pointing to the company's recent hiring of Deputy General Counsel Marshall Phelps as a sign of its commitment to expanding licensing. Phelps will manage Microsoft's intellectual property portfolio and field requests for access.

Although Microsoft will charge for some of its licensing arrangements, the company doesn't expect the new programs to generate significant revenue. "That's not why we're doing this," Smith said.

Wilcox said he sees the new licensing approach as a sincere effort by Microsoft to play nicely with others in the industry. Steve Ballmer, now almost four years into his tenure as Microsoft's CEO, is more interested in industry collaboration than was his predecessor, Bill Gates, Wilcox said. **◑ 43342**

Cowley writes for the IDG News Service.

SAMPLE LICENSING FEES

File Allocation Table technology: **25 cents per unit** incorporating the system, such as memory cards and digital cameras. Fees are capped at **$250,000 per manufacturer.**

ClearType technology: Fees will generally be in the range of **$1 to $3 per device,** such as handheld computers and mobile phones.

HP Blades

larger and larger systems with the same amount of technicians," Norby said.

Likely desktop replacement candidates are users who primarily use Windows and Office and who don't have a lot of custom applications running on their systems.

Although notebook users tend to be outside of the target market for thin clients, those who typically use their notebooks when connected remotely to a network can use them to connect to a blade.

The strongest candidates for PC blades are IT shops that have already "maxed out on how much improvement they can get out of their traditional desktops," said Jeff Groudan, vice president of product marketing in HP's Personal Systems Group.

Groudan claimed that companies running 1,000 or more desktops could scrap as many as half of their existing desktop systems in favor of thin clients. HP believes a dedicated blade will offer consistent levels of performance, addressing a key concern some users have had about server-based thin clients, he said.

Officials at Austin-based ClearCube Technology Inc., which sells a PC blade system that uses Pentium 4 chips, said that more than 500 customers have adopted its systems. HP's decision to compete in the PC blade market "validates this whole PC blade computing category," said Raj Shah, ClearCube's chief marketing officer.

The U.S. Air Force's security forces headquarters at Lackland Air Force Base in San Antonio recently adopted PC blades from ClearCube after looking at a number of server-based thin clients. Senior network engineer Rick Johnsen said the blades provide a desktop experience that's indistinguishable from that of a fully loaded desktop PC. Moreover, the server-based options typically required additional training and didn't necessarily support peripherals such as card readers, he added.

Improved security over traditional desktop PCs is a major reason why military and intelligence groups have been early adopters of thin-client architectures, analysts say. And it's a need that may also drive private-sector businesses that are struggling with patch management to look more closely at thin clients.

Security "was big for us," said Johnsen. "What really sold us was the ability to manage the computers centrally."

Although HP sees a large potential for its PC blades, the reality is that thin-client systems, most of which are server-based, constitute only 1% of PC shipments. Market research firm IDC estimates 2003 thin-client shipments at 1.45 million units and forecasts 20% annual growth to 3.3 million units by 2007.

IDC analyst Bob O'Donnell said HP's move raises the profile of an industry sector dominated by small companies. "The thin-client industry needs a big player like HP behind it," he said. **◑ 43336**

Blade Runner

The HP system will be available in March; pricing is as follows:

Desktop thin client: Starts at $349

PC blade: $799

Full implementation, including customization, implementation, training and support: Starts at under $1,500 per seat; for very large users replacing tens of thousands of desktops with blades, it will be discounted to about $1,000 per seat.

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Talk Is Cheap

MORE THAN 300 IT executives were at the National Cyber Security Summit last week (see story, page 1). About 97% of them were from IT vendors. What they got from Homeland Security Secretary Tom Ridge was jawboning about how the industry has to do more to secure cyberspace or else they just *might* be subject to government regulation.

Let's translate that: There won't be regulation anytime soon. Companies that aren't IT vendors aren't players in this game. And if your company wants better IT security, you're on your own.

Does that sound like a cynical assessment? It's not. A year after the first drafts of "The National Strategy to Secure Cyberspace" began circulating, we have a pretty clear picture of what the U.S. government is and isn't willing to do to beef up IT security, both in products and on the Internet.

The feds are willing to do a lot of encouraging. They're not willing to do much enforcing.

Compare that with what the feds have mandated for non-IT security: the airport checkpoints, the special registration programs for foreign nationals, the increased surveillance, the gun-toting guards. Whatever the effectiveness of these efforts, there's no doubt that the government is willing to take a strong hand when it comes to physical security.

Or compare it with what was mandated in the face of Y2k: corporate disclosure of the risks and costs of Y2k in financial statements filed with the Securities and Exchange Commission.

Real concern translates into action. But we're not getting that when it comes to cybersecurity. What we're getting is just a lot of talk.

There's nothing wrong with Ridge talking about the cybersecurity problem. It raises awareness. It encourages people to kick around ideas. It signals that cybersecurity hasn't completely fallen off the radar.

But a serious, active cybersecurity push? It won't happen.

In fact, we aren't even likely to see the U.S. government use its formidable IT purchasing power to goose vendors along toward better security. In government IT, as in the private sector, cost is an issue — it's often *the* issue. And the lowest bid will always have an advantage over improved security.

And in practice, neither the government nor IT vendors even want to hear from corporate IT about security. So we are truly on our own.

What can we do? The usual, of course: beef up patch regimens. Test proactively. Turn on security features. Turn off other features that aren't needed. Encrypt. Subnet. Limit trust between machines wherever possible. Check logs at every level, from intrusion-detection systems down to individual users' PCs.

Then begin making a plan to transition to IP Version 6 — one of the few clear action items on the government's agenda.

And then take a page from the government's playbook. As long as all we're getting from the feds is a lot of talk, use that talk. Make sure your top brass hear about last week's talkfest. Pull down a copy of "The National Strategy to Secure Cyberspace" from *www.whitehouse.gov/pcipb*. Circle the scary parts. Start laying the groundwork for a bigger security budget request in the next budget cycle.

Talk up security with non-IT managers. Underline the problem. Raise awareness. Ask for suggestions. Find out what it will take to get users to support security policies instead of fighting them.

Then politic the heck out of your successes when you stop viruses, worms, intrusions and denial-of-service attacks. Let users and management know that the threats are there and that you *can* stop them — when you have help from users and the necessary resources in your budget.

It's not the same as having the full, active support of the U.S. government and IT vendors in securing cyberspace. But for now, it's all you're going to get. ◐ **43293**

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

The Old Light Bulb Problem

Why didn't the generators kick in during the latest power outage? wonders sysadmin pilot fish. The answer: A maintenance worker changing a fluorescent light bulb in the computer room accidentally tripped the emergency power-off switch when he pushed a box against it. "Because the switch is designed to be used in an emergency such as fire, injury or flood, the UPS system was not activated," fish sighs. "And this is our company's disaster-recovery hot site."

New Math
Pilot fish needs the default password for a software product, so he e-mails the manufacturer's support department – although he's not sure they'll agree to send password via unencrypted e-mail. The response: "The password is a secret. But if you solve $1/x$ where $x = 0.000810372$ and append '00' to the left of the resulting four most significant digits, the password is evident."

SHARK TANK

Great Idea
This vendor's application runs fast and well in batch mode under DOS or Windows, and customers are happy with it. "Then a company bigwig came back from some industry conferences and was determined that we needed a Windows version, so users could interactively manipulate data," says a programmer pilot fish. After eight months of work, a proper Windows version is ready for customers to review. Their response? "They asked us if we could add hooks into the app," fish says, "so that it could be launched via command-line options and used in batch mode."

Not Your Father's Report Writer
This overloaded university IT pilot fish can't generate all the reports requested by users, so his boss offers to pitch in using a Windows-based report writer. "I should be able to figure this out," boss tells fish. "I used to teach Cobol." Two weeks later, the boss hasn't written a single report, fish says. "But she did schedule one of the help desk analysts to attend training for the reporting software."

A Matter of Taste
Vendor pilot fish is working with a new engineer, installing the product for a big customer, when the CD with the software doesn't seem to work. Did you bring a backup? fish asks. "No, but I'll get this one off," engineer says. Groans fish, "I knew I was in big trouble when – with several of the customer's IT bigwigs surrounding us – he removed the CD, licked it profusely and put it back. I called the home office to FTP me what I needed – and requested a new engineer for my team when we got back home."

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